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542. After the asset purchase, Saucony II utilized the same raw materials, obtained from the same suppliers, that Saucony I had used at the Kutztown plant. (Adam, Tr. 7/12/94 at 36.)

543. Saucony II continued to sell shoes to the same customers that Saucony I had sold to. (Adam, Tr. 7/12/94 at 36.)

544. For at least six months after the asset purchase, the Kutztown plant continued to produce the same Saucony brand products that it had before. (Adam, Tr. 7/12/94 at 35-36.)

545. Some time after the asset purchase, the Kutztown plant began manufacturing Hyde brand shoes in addition to Saucony brand. (Adam, Tr. 7/12/94 at 37.)

546. From October 24, 1968 until 1983, Saucony II conducted athletic shoe manufacturing operations at the Macungie facility and at the Kutztown plant. Additionally, Saucony II maintained a shipping operation in Emmaus, Pennsylvania (the "Emmaus facility"). (TPP 902 at ¶ 4.)

## *(2) Use of the Dorney Road Landfill*

### *(a) Kutztown Plant*

547. The Borough of Kutztown (the "Borough") hauled waste from residences and businesses located within its boundaries. (Bortz, Tr. 7/12/94 at 50-51.)

548. The Borough transported waste in open dump trucks for a short time, then switched to compactor trucks. (Bortz, Tr. 7/12/94 at 51.)

549. Waste from the Kutztown plant was disposed of at the Site from March 1961 through July 1970:

a. From February 1960 through July 1970, the Borough disposed of the waste it collected from residences and industries exclusively at the Site. (TPP 742 at 001205; Bortz, Tr. 7/12/94 at 54.)

b. The Borough hauled waste from the Kutztown plant continuously from March 1961 through December 1970. (TPP 1025 at KB00222 - KB00241; Bortz, Tr. 7/20/94 at 24.)

### *(b) Macungie Facility*

550. Reeser's Hauling Service hauled waste from the Macungie facility beginning in January 1970. (Ryder, Tr. 12/9/93 at 209-11.)

\*59 551. The Selig Log shows that Reeser used the Site regularly from 1968 through December 1971. (TPP 2)

552. Reeser opened his own landfill in January 1972. (TPP 2; TPP 942.) Thereafter, he continued to use the Dorney Road landfill until March 1977, but only sporadically. (TPP 2)

## *(3) Waste Disposed at the Site*

### *(a) Kutztown Plant*

#### *(i) Volume*

553. The Borough calculated the fees it charged for waste disposal in the same manner for businesses and residences. (Bortz, Tr. 7/20/94 at 27.) The Borough charged residents and businesses 20CENTS for each pickup of three 20-gallon waste containers, and 15CENTS for each additional container. (Bortz, Tr. 7/20/94 at 25; TPP 812 at 000110-12.) This fee structure remained in place during the entire period during which the Borough hauled waste from the Kutztown plant to the Site. (Bortz, Tr. 7/20/94 at 29.)

554. The Borough routinely collected waste from residences and businesses twice each week, but would schedule additional pick-ups upon request. (TPP 812 at 000110.)

555. The Borough's billing documents for the period 1960 through 1970 reflect monthly waste removal charges to Saucony I and Saucony II from March 1961 through the end of 1970. (TPP 1025) Accordingly, waste from the Kutztown plant was disposed of at the Site for approximately 490 weeks. (9 years x 52 weeks/year) + (5 months x 4.33 weeks/month)

556. The billing documents show that a base charge of \$2.40 or \$3.00 was included in each month's charge to Saucony. (TPP 812 at 000227 - 000241; Bortz, Tr. 7/20/94 at 30.) A base charge of \$2.40 represents three pick-ups per week in a four-week month, whereas a base charge of \$3.00 represents three pick-ups per week in a five-week month.

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(Bortz, Tr. 7/20/94 at 29-30.) Thus, it appears that Saucony arranged to have its waste removed three times each week. The remaining charges in a given month reflect the 15CENTS charge per additional 20-gallon container. (Bortz, Tr. 7/20/94 at 30.)

557. The truck drivers who picked up waste from the Borough's commercial customers were instructed to convert all waste receptacles to 20-gallon units for purposes of calculating the number of receptacles for which the customer would be charged under the Borough's billing system. (TPD 1293)

558. The Borough charged Saucony I and Saucony II a total of \$12,444.15 between March 1961 and August 1970. (TPP 1025) This figure includes the base charges for each waste collection, as well as the extra charge of 15CENTS for each barrel in excess of three per pick-up. (Bortz, Tr. 7/20/94 at 30.)

559. Based on a 60CENTS/week base charge, the total base charges were \$294. (490 weeks x \$.60/week)

560. The base charges are for collection of nine barrels per week for 490 weeks. Accordingly, the base charges represent the amount the Borough charged Saucony I and Saucony II for collecting the equivalent of 4,410 20-gallon barrels.

561. Of the total charges, \$12,150.15 reflects the 15 CENTS/barrel charge for those collections where the Borough picked up more than the equivalent of three 20-gallon barrels at the Kutztown plant. (\$12,444.15 total charge - \$294 base charge = \$12,150.15 extra charge)

\*60 562. The Borough charged Saucony I and Saucony II 15CENTS extra per barrel for removing the equivalent of 81,001 20-gallon barrels. (\$12,150.15) x (1 barrel/\$.15)

563. Saucony I and Saucony II disposed of a total of 1,708,220 gallons of waste at the Site. (4,410 base barrels + 81,001 extra barrels) x (20 gallons/barrel)

564. Wagner assigned a density factor of 660 lbs/cu.yd. to Saucony's waste. (TPP 199(a), Attachment 2A.) However, this appears to represent the factor that would be appropriate if the waste had been compacted. Although the Borough transported waste in compactor trucks, waste was placed loose

in barrels for collection. The Borough charged its customers for disposal based on the volume of loose refuse, not on the volume of compacted refuse. Therefore, for purposes of calculating the volume of waste generated by the Kutztown plant, the appropriate density factor is 250 lbs/cu.yd. (TPP 960)

565. Saucony I and Saucony II disposed of 1,057.28 tons of waste from the Kutztown plant at the Site. (1,708,220 gallons) x (1 cu.ft./7.48 gal.) x (1 cu.yd./27 cu.ft.) x (250 lbs./cu.yd.) x (1 ton/2,000 lbs.)

566. Of the total waste that was disposed of at the Site from the Kutztown plant, 294.93 tons were disposed of after Saucony II acquired the plant through the Agreement (the "Saucony II period"). (476,520 gallons) x (1 cu.ft./7.48 gal.) x (1 cu.yd./27 cu.ft.) x (250 lbs./cu.yd.) x (1 ton/2,000 lbs.)

a. During the time that Saucony II operated the Kutztown plant, the Borough took waste from the plant to the Site for about 91 weeks. (21 months x 4.33 weeks/month)

b. The total waste disposal charges that accrued during the Saucony II period were \$3,505.65. (TPP 1025 (charges from November 1968 through July 1970).)

c. The base charges during the Saucony II period totaled \$54.60. (\$.60/week x 91 weeks)

d. The base charges represent the amount charged for disposal of the equivalent of nine 20-gallon barrels per week, or a total of 16,380 gallons of waste. (9 barrels/week x 20 gallons/barrel x 91 weeks)

e. The extra charges for the Saucony II period come to \$3,451.05. (\$3,505.65 total charge - \$54.60 base charge)

f. The extra charges of \$3,451.05 represent the amount the Borough charged for removing the equivalent of 23,007 20-gallon barrels of waste from the Kutztown plant. (\$3,451.05 x 1 barrel/\$.15) This comes to 460,140 gallons. (23,007 barrels x 20 gallons/barrel)

g. During the Saucony II period, the Borough

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disposed of 476,520 gallons of waste from the Kutztown plant at the Site. (16,380 gallons base + 460,140 gallons extra)

(ii) Content

567. Athletic footwear manufactured at the Kutztown plant included bowling shoes, football shoes, track shoes, roller skates, and ice skates. (Adam, Tr. 7/12/94 at 8.)

568. Three shoe manufacturing processes were employed at the Kutztown plant during the 1960s: Littleway, Fairstitch, and Goodyear. (Adam, Tr. 7/12/94 at 10.)

\*61 569. Saucony II did not begin manufacturing running shoes based on a "cement" construction until the 1970s. (Adam, Tr. 7/12/94 at 37; see Jones, Dep. 3/21/94 at 115.)

570. The manufacturing processes at the Kutztown plant generated leather trimmings and leather dust that were discarded in the trash. (Adam, Tr. 7/12/94 at 14-15, 18-19, 25.) Some of the leather contained chromium. (Leverone, Dep. 4/8/93 at 22; Malinowski, Tr. 7/13/94 at 34-35, 46.)

571. A rubber cement known as R-640T was applied to shoes by brush in the Goodyear process. (Adam, Tr. 7/12/94 at 21; Malinowski, Tr. 7/13/94 at 38-39.) Traces of R-640T were occasionally discarded on old brushes, cans that had once contained R-640T, or leather trimmings that had been cemented. (Adam, Tr. 7/12/94 at 23-28, 39.)

572. The R-640T used in the Goodyear process contained toluene. (Malinowski, Tr. 7/13/94 at 40; TPP 903(d).)

573. A glue known as Super Grip 660 was used at the Kutztown plant to glue heels on bowling shoes. Excess glue from the process was trimmed off and discarded, or wiped off with rags that were discarded with the plant trash. (Adam, Tr. 7/12/94 at 32-33.)

574. The Super Grip 660 that was used to glue heels to bowling shoes contained toluene, ethyl acetate, and acetone. (Malinowski, Tr. 7/13/94 at 37-38; TPP 903(c).)

575. Brown and Lowe assigned a waste strength score of '6' to Saucony's plant trash. (TPP 191) The court finds this score to be appropriate.

(b) Macungie Facility

(i) Volume

576. Reeser hauled 8 loose cubic yards of waste from Saucony II's Macungie facility per day, five days per week. (Ryder, Tr. 12/9/93 at 210.)

577. Reeser disposed of all or nearly all of Saucony II's waste from the Macungie facility at the Site from January 1970 through December 1971. (Ryder, Tr. 12/9/93 at 189-90; TPP 2.) Thereafter, Reeser's use of the Site dwindled considerably.

578. Between January 1970 and December 1971, Reeser hauled 4,160 loose cubic yards of waste from Saucony II's Macungie facility. (8 cu.yd./day x 5 days/week x 104 weeks) Accordingly, the court finds that Saucony II disposed of 520 tons of waste at the Site between January 1970 and December 1971. (4,160 cu.yd.) x (250 lbs/cu.yd.) x (1 ton/2,000 lbs.)

579. Dovell calculated the volume of waste from the Macungie facility that went to the Site between January 1972 and March 1977. Saucony II does not dispute Dovell's calculation method. (TPD FOF at ¶ 1738.)

580. Saucony II argues that Dovell's calculation for the 1972 - 1977 time period should be disregarded to the extent that it takes into account waste from Saucony II's Emmaus facility because no evidence shows that Reeser took that waste to the Site. (TPD FOF at ¶ 1739.) However, the court will include the Emmaus waste in the volume calculation for Saucony for the following reasons:

a. Dovell's methodology "assumed that all of Reeser's customers had an equal chance of having their waste transported to the [Site]." (Dovell, Tr. 7/28/94 at 169-70.) Therefore, for purposes of applying Dovell's calculation method, the court must assume that some of the Emmaus waste went to the Site.

\*62 b. Reeser's customer list was compiled between 1978 and 1982, after the landfill closed. (Reeser,

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Atlas Dep. 12/5/91 at 47.) This was also after Reeser's business had expanded due to his acquisition of another hauling company and its accounts in February 1978. (Reeser, Atlas Dep. 12/5/91 at 9-10, 23-24, 31.) Therefore, it is more likely than not that more accounts appear on the customer list than Reeser would have had during the time that he was using the Site. Nonetheless, Dovell's calculation method assumes that waste from all the accounts listed on Reeser's customer list went to the Site. The result is that Saucony II's share is probably understated rather than overstated.

c. A number of Reeser's major customers instructed him to take their waste to sites other than the Dorney Road landfill. (Reeser, Atlas Dep. 12/5/91 at 32-33.) Again, Saucony II is benefited by the inclusion of these accounts in the volume calculation to the extent that it causes Saucony II's share to be understated.

581. The court accepts Dovell's method of calculation and, accordingly, finds that Saucony II arranged for the disposal of 69 tons of waste from the Macungie facility and the Emmaus facility between January 1972 and March 1977.

a. Charges to the Macungie facility and the Emmaus facility collectively represent 0.4% of the total charges reflected on Reeser's customer list. (TPP 4; TPP 1020.)

b. The Selig Log reflects charges to Reeser totaling \$59,361 between January 1972 and March 1977. (TPP 2) Based on the Site's general charge of \$1.00 per compacted cubic yard, this signifies that Reeser dumped 59,361 compacted cubic yards of waste at the Site during that period. (Dovell, Tr. 7/27/94 at 130; *see* Ryder, Tr. 12/9/93 at 210 (waste was loose at plant but hauled in a rear load truck); DeLong, Dep. 3/31/93 at 24 (Reeser's rear loaders were compactors).)

c. About 12% of Reeser's waste may have been attributable to one customer during the relevant time period, although this is not reflected on the customer list. Accordingly, Dovell reduced the total charges to be allocated to the remaining customers by 12%. (TPP 1020) The waste to be divided between the listed customers thus amounts to 52,237.68 cubic yards. (59,361 x 0.88)

d. Saucony's share of the waste comes to 208.95 cubic yards. (52,237.68 x 0.004) Applying a density factor of 660 lbs/cu.yd., Saucony's proportionate share amounts to 69 tons. (208.95 cu.yd. x 660 lbs/cu.yd. x 1 ton/2,000 lbs.)

(ii) Content

582. Saucony II began manufacturing running shoes some time during the early 1970s. (Jones, Dep. 3/21/94 at 25, Beginning in 1975 or 1978, Saucony II manufactured exclusively running shoes at the Macungie facility. (Jones, Dep. 3/21/94 at 24-25.) Prior to that, other kinds of athletic shoes were manufactured along with running shoes. (Jones, Dep. 3/21/94 at 25.)

583. The material used in the uppers of the running shoes made at the Macungie facility was mostly nylon, but a split suede leather was used for trim. (Jones, Dep. 3/21/94 at 28.)

\*63 584. The adhesives used in making running shoes included urethane and neoprene. (Jones, Dep. 3/21/94 at 29.) These cements were not used in the manufacture of any other types of shoes at the Macungie facility. (Jones, Dep. 3/21/94 at 108.)

585. The neoprene glue used at the Macungie facility contained toluene. (Malinowski, Tr. 7/13/94 at 41; TPP 903(e).)

586. The urethane glue used at the Macungie facility contained acetone. (Malinowski, Tr. 7/13/94 at 41; TPP 903(f).)

587. The adhesives generally arrived at the Macungie facility in 55-gallon drums, but occasionally were in 5-gallon containers that were drained and discarded with the trash. (Jones, Dep. 3/21/94 at 50-51, 60.)

588. MEK was used at the Macungie facility for cleaning cement from various items. The rags containing MEK and cement were then thrown in the trash. (Jones, Dep. 3/21/94 at 54, 78-79, 81-82.)

589. Brown and Lowe assigned a waste strength score of '6' to Saucony's plant trash. (TPP 191) The court finds this score to be appropriate.

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P. SCA SERVICES, INC.

(1) *Ownership and Operations*

590. Third-Party Defendant SCA Services of Pennsylvania, Inc. ("SCA") is a corporation incorporated under the laws of the Commonwealth of Pennsylvania. SCA is currently a subsidiary of Waste Management, Inc. ("Waste Management").

591. SCA is now, and was during the relevant time period, a waste hauling and disposal company.

592. The parties have stipulated that SCA is a "covered person" within the meaning of 42 U.S.C. § 9607(a). (TPP 1230)

(2) *Use of the Dorney Road Landfill*

593. From July 1, 1976 through December 31, 1978, SCA hauled waste under two separate contracts with the City of Allentown (the "City" or "Allentown"). (Rinehart, Dep. 3/11/93 at 9, 26.) The first contract (the "1976 contract") covered the period from July 1, 1976 through June 30, 1977. (TPP 453.B) The second contract (the "1977 contract") covered the period from July 1, 1977 through December 31, 1978. (TPP 453.C)

(a) *The 1976 Contract*

594. In 1976, Allentown provided SCA with an invitation to bid containing information about the City's waste disposal requirements and outlining what the City expected from contractors bidding on the disposal contract. (TPP 453.B; Grimm, Tr. 8/5/94 at 200.)

595. The invitation to bid provided that the City's waste would be hauled to the Lehigh County Authority Disposal Center (the "Lehigh County site"). (TPP 453.B, § 3.4 at 7 of 18.) The invitation to bid further provided that if the Lehigh County site became unavailable, "the Contractor shall provide a suitable method of disposal of the solid waste. The method and place of disposal shall be subject to the approval of the City ...." (TPP 453.B, § 3.4(d) at 7 of 18.) The invitation to bid also provided that the City would pay for dumping costs at any site that it had approved. (TPP 453.B, § 3.4(d) at 7 of 18.)

\*64 596. After issuing the invitation to bid, Allentown held a pre-bid conference so that prospective bidders could ask questions and obtain specific information about the City's requirements. (TPP 453.B; Grimm, Tr. 8/5/94 at 200-01.)

597. Dennis Grimm ("Grimm"), who at the time was Secretary of SCA, attended the pre-bid conference on behalf of SCA. (Grimm, Tr. 8/5/94 at 199, 200.) Grimm also was involved in preparing SCA's bid for the contract. (Grimm, Tr. 8/5/94 at 198.)

598. Harry Bisco ("Bisco"), who was Allentown's Director of Public Works at the time, attended the pre-bid conference on behalf of the City along with other city personnel. (Bisco, Tr. 12/9/93 at 232; Grimm, Tr. 8/5/94 at 200-01; see Bisco, Dep. 4/1/93 at 7.)

599. Among the topics discussed at the pre-bid conference was the choice of disposal sites for Allentown's waste in the event that the Lehigh County site became unavailable. The prospective bidders learned that Allentown's prior contractor, Hoch Sanitation, had used the Dorney Road landfill. The City provided the bidders with directions to the Site. (Grimm, Tr. 8/5/94 at 207-08.)

600. The invitation to bid included a section ("Schedule A") where the contractor was instructed to list "places of disposal, proposed to fulfill specifications under 3.4(d) Proposal A and B." (TPP 453.B, Schedule A at 14 of 18.) When issuing the invitation to bid, the City left Schedule A blank because it considered the selection of a landfill to be the contractor's responsibility. (Bisco, Tr. 12/9/93 at 238.)

601. When SCA submitted its proposal, it listed three landfills under Schedule A: the Oswald Refuse Disposal Site [the Site], the Heleva Disposal Site (the "Heleva site"), and Pottstown Disposal Services, Inc. (the "Pottstown site"). (TPP 453.B, Schedule A at 14 of 18.)

602. The City's award of the contract to a contractor is tantamount to approval of all disposal sites listed under Schedule A in the contractor's bid. (Bisco, Tr. 12/9/93 at 239.)

603. Allentown awarded the 1976 contract to SCA.



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(TPP 453.B; Grimm, Tr. 8/5/94 at 198.)

604. The 1976 contract declared the invitation to bid and proposal to be part of the contract and, as such, binding on both parties. (TPP 453.B at ¶ 1.)

605. The contract specified that the parties had agreed on Proposal A, which incorporated the parties' expectation that SCA would dispose of Allentown's waste at the Lehigh County site subject to any disposal time restrictions imposed by the Lehigh County site. Proposal A required SCA to collect waste in the part of town known as "Center City" between 11:00 p.m. and 8:00 a.m., regardless of the Lehigh County site's hours of disposal. (TPP 453.B at ¶ 5; see TPP 453.B at 10 of 18 (Proposal A).)

606. The Lehigh County site closed shortly after the contract was entered into, and SCA disposed of Allentown's waste at the Site for the remainder of the time covered by the 1976 contract. (Repasch, Tr. 12/9/93 at 303; Grimm, Tr. 8/5/94 at 209-10.)

#### (b) The 1977 Contract

\*65 607. The bidding procedure for the 1977 contract was the same as for the 1976 contract. (Grimm, Tr. 8/5/94 at 210.)

608. The City did not list a primary disposal site in the invitation to bid for the 1977 contract. Instead, the 1977 invitation to bid provided that "[r]efuse collected by the Contractor is to be deposited at a site approved by the City of Allentown." (TPP 453.C, § 3.4(b) at 7 of 16.)

609. SCA bid on the 1977 contract and listed the same sites under Schedule A that it had in its proposal for the 1976 contract. (Grimm, Tr. 8/5/94 at 210; TPP 453.C at 12 of 16.)

610. The City awarded the 1977 contract to SCA based on Proposal B, which required the contractor to complete all refuse collection throughout the city by 8:00 a.m. (TPP 453.C, Proposal B at 10 of 16.)

#### (c) SCA's Role in Selecting the Site

611. As the court noted above, SCA listed the Site as one of three potential disposal sites under Schedule A in its proposals for both the 1976 and

1977 contracts. The City accepted those proposals when it entered into the contract with SCA. (TPP 453.B; TPP 453.C.) The contracts thus allowed SCA to dispose of Allentown's waste at any one of the three sites listed under Schedule A.

612. Grimm testified that the Site was the only site that would accept waste at night and was therefore the only site that SCA could use to satisfy the nighttime collection requirement under both contracts. (Grimm, Tr. 8/5/94 at 208, 210, 212-13.)

613. The contracts required nighttime collection but not nighttime disposal. (TPP 453.B, Proposal A at 10 of 18 (collection in Center City must be completed by 8:00 a.m. "[r]egardless of disposal time restrictions"); see TPP 453.B, § 3.4(b) at 7 of 18 (Lehigh County site open 7:30 a.m. to 7:00 p.m.); Grimm, Tr. 8/5/94 at 226-27.)

614. SCA could have disposed of Allentown's waste at the Heleva site at night.

a. The Heleva site had posted hours of 7:30 a.m. to 5:00 p.m. (Heleva, Tr. 10/14/94 at 5.)

b. The Heleva site deviated from its regular operating hours if it could derive an economic benefit from doing so. (Heleva, Tr. 10/14/94 at 5-6, 7, 22-23.) Heleva would not stay open at night for any customer that brought less than eight loads because it was not economically feasible. (Heleva, Tr. 10/14/94 at 9.) For instance, other haulers disposed of waste at the Heleva site as early as 4:00 a.m. (Heleva, Tr. 10/14/94 at 6.)

615. SCA could have taken Allentown's waste to the Pottstown site at night.

a. SCA owned the Pottstown site. (Grimm, Tr. 9/20/94 at 6.)

b. Nothing external to SCA prevented the Pottstown site from opening at night. The Pottstown site was closed at night only because SCA "did not want to upset the neighbors." (Grimm, Tr. 9/20/94 at 36.)

#### (3) Waste Disposed at the Site

##### (a) Content

616. SCA hauled waste to the Site from a number of

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its commercial accounts in addition to the waste it hauled for the City of Allentown. (TPP 880; TPP 881; Rinehart, Dep. 3/11/93 at 107.)

\*66 617. SCA hauled waste from Allentown's various operations to the Site under its contract with the City. (TPP 453.B; TPP 453.C; Rinehart, Dep. 3/11/93 at 34-35.) The waste generated by the City's operations included waste from two municipal garages, rags and debris from the City's sewage treatment plant, waste from ten fire stations, and waste from the City's offices. (TPP 453.B; TPP 453.C; Rinehart, Dep. 3/11/93 at 34-35, 54-57; Bisco, Tr. 12/9/93 at 241-43.)

618. The waste that SCA hauled to the Site under its contracts with Allentown was composed primarily of residential MSW that SCA picked up curbside or from apartment complexes. (TPP 453.B; TPP 453.C; Rinehart, Dep. 3/11/93 at 35.)

619. The residential waste that SCA hauled under its contract with the City included garbage such as fruit, vegetables, animal matter and other organic substances. (TPP 453.B; TPP 453.C; City of Allentown Ordinance No. 12017.)

620. SCA picked up large appliances that residents left on their curbs for disposal, including refrigerators, stoves, washing machines and water heaters. However, SCA took these "white goods" to scrap dealers rather than to the Site. (Rinehart, Dep. 3/11/93 at 51.)

621. SCA did not pick up used tires, large auto parts, or building material under its contracts with the City. (Rinehart, Dep. 3/11/93 at 52, 53.)

622. MSW typically contains a broad array of hazardous substances, including virtually all organic and inorganic hazardous substances listed under CERCLA "from acetone to zinc." (Gordon, Tr. 12/17/93 at 170-71.) The hazardous substances present in MSW typically are at significantly lower levels than in industrial waste and often are found in only trace quantities. (Robertson, Tr. 10/5/94 at 4-5; Hengemihle, Tr. 8/4/94 at 47, 51.) Nothing in the record suggests that the residential waste generated by Allentown and taken to the Site by SCA during the relevant time period was anything but typical.

623. Household products containing hazardous

substances commonly are divided into five categories: (1) automotive maintenance products, (2) household maintenance products such as paint, (3) household cleaners, (4) personal care items such as drugs and cosmetics, and (5) pesticides and yard maintenance products. (Gordon, Tr. 12/17/93 at 174-79; TPP 953; TPP 954; TPP 955; TPP 956.)

624. Used motor oil, the most prevalent of the automotive maintenance products, contains significant levels of lead and petroleum hydrocarbons. Additionally, used oil may contain metals from the car engine that collect in the oil. (Gordon, Tr. 12/17/93 at 175-76; TPP 953.)

625. Allentown allowed its residents to dispose of batteries, paint cans, and aerosol cans in their trash during the 1970s. (Bisco, Tr. 12/9/93 at 252.)

626. Eleanor Barna ("Barna") resided in Allentown during the time that SCA was hauling waste for the City. (Barna, Tr. 7/13/94 at 14.) During that time, she put the following things in her garbage: batteries; containers with residue of cleaners including Spic N Span, Tide, and Clorox; ammonia; polishes including Pledge; insecticides and pesticides including Black Flag; paint cans with residue of paints including latex-based paint, semi-gloss enamel, and gloss enamel; varnishes; paint thinners; brushes and rollers with paint and varnishes on them; drop cloths from painting and varnishing; and aerosol cans. (Barna, Tr. 7/14/94 at 15-25.) Many of these items contain hazardous substances. (TPP 953; TPP 954; TPP 955; TPP 956.)

\*67 627. Even when a resident discards an ostensibly empty container, the container is likely to contain at least a residue of the product that it had once immured. (Gordon, Tr. 12/17/93 at 178-80.)

628. Brown and Lowe assigned a waste strength score of '7' to the MSW that SCA hauled to the Site for Allentown. (TPP 191) The court finds this score to be appropriate.

(b) Volume

629. The charges to SCA reflected in the Selig Log from July 1976 through December 1978 total \$289,380. (TPP 2; TPP 1018.) SCA paid Oswald a tipping fee of \$1.00 per cubic yard. (TPP 938 (SCA

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invoices attached to City's 104(e) response.) Therefore, the numbers in the Selig Log show that SCA disposed of 289,380 cubic yards of waste at the Site between July 1976 and December 1978. (TPP 2.)

630. Of the waste that SCA disposed of at the Site, 1,780 cubic yards consisted of waste from SCA's commercial routes. (TPP 881; TPP 884; TPP 885; TPP 886; TPP 938; TPP 1019.)

631. The municipal and commercial waste that SCA disposed of at the Site had a density of 660 lbs/cu.yd. (TPP 199(a), Attachment 2A.)

632. Based on the foregoing, the court finds that SCA disposed of 95,495.40 tons of waste at the Site. (289,380 cu.yd.) x (660 lbs./cu.yd.) x (1 ton/2,000 lbs.)

a. Of the waste that SCA hauled to the Site, 94,908 tons consisted of waste from the City of Allentown. (289,380 total cu.yd. - 1,780 commercial cu.yd. = 287,600 municipal cu.yd.) x (660 lbs./cu.yd.) x (1 ton/2,000 lbs.)

b. Of the waste that SCA hauled to the Site, 587.40 tons consisted of waste from SCA's various commercial routes. (1,780 commercial cu.yd.) x (660 lbs./cu.yd.) x (1 ton/2,000 lbs.)

#### Q. THE STROH BREWERY COMPANY

##### (1) *Ownership and Operations*

633. Third-Party Plaintiff The Stroh Brewery Company ("Stroh") is a corporation incorporated under the laws of the State of Arizona.

634. Stroh is the successor in interest to the F & M Schaefer Brewing Company ("Schaefer"). (TPD 462 at ¶ 40(b).)

635. Stroh currently owns and operates a brewing facility located in Fogelsville, Pennsylvania (the "brewery"). (TPD 461 at ¶ 1.) Schaefer constructed the brewery, which became fully operational in February 1972. (TPD 461 at ¶ 2; TPD 462 at ¶ 4(a).) Schaefer operated the brewery from 1972 until 1981. (TPD 461 at ¶ 5.) In May 1981, Stroh acquired Schaefer through a stock purchase. (TPD 461 at ¶ 4; TPD 462 at ¶ 40(a).)

636. From February 1972 through 1978, Schaefer produced and distributed a certain malted beverage ("beer") at the brewery. (TPD 461 at ¶ 3.) The operations at the brewery included brewing and packaging beer, cleaning and sanitizing bottles and equipment, and storing and distributing the packaged product. (TPD 463)

637. The production process at the brewery has remained essentially the same since 1972. Accordingly, the type, quantity, and characteristics of the waste generated at the brewery have remained more or less constant since 1972. (TPD 463(b) at 4-5.)

##### (2) *Use of the Dorney Road Landfill*

\*68 638. Reeser hauled Schaefer's waste from the time the brewery opened through the end of the relevant time period. (TPD 461 at ¶ 76; Kopic, Dep. 3/26/93 at 150.) From 1972 until 1978, Reeser was Schaefer's only hauler. (Palmer, Dep. 3/26/93 at 98, 155; Kopic, Dep. 3/26/93 at 104.)

639. Schaefer and Reeser entered into three contracts for waste disposal between 1972 and 1978.

a. The first contract, under which Reeser commenced hauling Schaefer's waste February 1, 1972, provided that Reeser would supply the labor, material, equipment, supervision, and services for removal of solid waste and spent filter aid from the brewery for a period of three years. (TPD 458; TPD 461 at ¶ 10.)

b. The second contract, which covered the period February 1, 1975 through January 31, 1978, provided that Reeser would supply the "[l]abor, material, equipment, supervision and service to remove solid waste, corrugated and fiber board cartons, wood and spent filter aid" from the brewery. (TPD 459; TPD 461 at ¶ 105.)

c. In 1978, Schaefer split the hauling contract between Reeser (30%) and Valley Disposal ("Novak") (70%). (TPD 464; TPD 465; TPD 466; TPD 467; Palmer, Dep. 3/26/93 at 98, 118; Kopic, Dep. 3/26/93 at 114 (Lou Novak was principal at Valley Disposal).) By that time, however, Reeser had stopped using the Site. (TPP 2) Novak never used the Site. (Selig, Tr. 9/21/94 at 123; see TPP 2.)



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640. Reeser brought waste from the brewery to the Site beginning in the early seventies. (Oswald, Tr. 9/21/94 at 24.)

641. As the court has noted above, Reeser's use of the Site dropped off considerably after Reeser opened his own landfill in January 1972. However, Reeser disposed of waste at the Site on a large scale between 1973 and 1976. (TPP 2)

(3) *Waste Disposed at the Site*

642. The brewing process at Schaefer's brewery produced four distinct wastes: spent grains, spent hops, waste syrup, and spent diatomaceous earth. Other operations at the brewery produced waste including cardboard, paper, wood, glass, floor sweepings, office waste, empty cans, rags, bungs from the debunger, and solid material screened from wastes discharged into the waste treatment plant. (TPD 462 at ¶ 42; Palmer, Dep. 3/26/93 at 57, 93-94, 97.)

643. Spent grains and yeast were not discarded, but instead were combined and sold as animal feed to a local turkey farmer. (TPD 461 at ¶ 85; Palmer, Dep. 3/26/93 at 57-58.)

644. Two drivers who hauled Schaefer's waste for Reeser testified that they rarely, if ever, took the waste to the Site. (DeLong, Dep. 3/31/93 at 144-48, 153; Ryder, Dep. 4/8/92 at 98-99, 128-29, 156.) Reeser's landfill was the closest one to the brewery, located "just right around the corner," so it made sense to take Schaefer's waste there even when the conditions at Reeser's site made it difficult to use. (DeLong, Dep. 3/31/93 at 156; Ryder, Dep. 4/8/92 at 129.) Drivers other than DeLong and Ryder occasionally hauled Schaefer's waste for Reeser. (DeLong, Dep. 3/31/93 at 157-58.)

\*69 645. The court finds that Schaefer disposed of approximately 767.5 tons of waste at the Site, based on the following:

(a) *Waste Syrup*

646. Waste syrup was created from the evaporation of liquid brewery by-products. The syrup consisted of 10% solid and 90% liquid. (TPD 461 at ¶¶ 45, 55, 79.) Stroh estimated that Schaefer generated approximately 2,000 to 3,000 tons of waste syrup

each year. (TPD 461 at ¶ 46; TPD 463 at Table 1.)

647. According to Stroh's estimate, the Schaefer brewery generated, on average, 2,500 tons of waste syrup annually, or about 9.6 tons per day. (2,500 tons/year x 1 year/52 weeks x 1 week/5 days.)

648. The syrup was mixed with waste diatomaceous earth and hauled away by Reeser. (Palmer, Dep. 3/26/93 at 66-67.)

(b) *Diatomaceous Earth*

649. Schaefer used diatomaceous earth in the brewing process as a filter aid to clarify beer by removing yeast cells and other particles from the beer. After use, the waste diatomaceous earth was flushed from the filters and disposed of as solid waste. The filters were then coated with fresh diatomaceous earth and used again. This process was repeated throughout the brewing cycle. (TPD 463 at 3; Palmer, Dep. 3/26/93 at 48-51.)

650. Spent diatomaceous earth contains the solid particles that are filtered from the beer during the filtration process. (TPD 463 at 5.) During the relevant time period, spent diatomaceous earth that was hauled from the brewery was about 20% solid and 80% liquid by weight. (TPD 461 at ¶¶ 27, 54, 79, 92; TPD 463 at 5.) The waste diatomaceous earth was a thick slurry very similar in consistency to a swimming pool filter. It had a whitish-gray color and smelled like beer. (Palmer, Dep. 3/26/94 at 48, 51.)

651. After the spent diatomaceous earth was sluiced from the filters into a decant tank, it was placed into specially-made containers for disposal. (Palmer, Dep. 3/26/93 at 49; TPD 461 at ¶ 91; TPD 462 at ¶ 42(C); TPD 463 at 3.)

652. Stroh estimated that during the relevant time period, Schaefer disposed of 1,000 to 2,200 tons of spent diatomaceous earth per year. (TPD 461 at ¶ 35; TPD 463, Table 1) The court notes that, on average, this comes to about 6.15 tons per day. (1,600 tons/year x 1 year/52 weeks x 1 week/5 days.)

653. Stroh's estimates of the volume of waste syrup and diatomaceous earth collectively come to 15.77 tons per day.

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654. Reeser designed two containers to handle the spent diatomaceous earth. (TPD 461 at ¶¶ 82, 83.) The containers had a capacity of about 17 cubic yards each. (TPD 1522) Reeser removed at least one container of diatomaceous earth per day. (Palmer, Dep. 3/26/93 at 49.) As the court noted above, these containers also included the waste syrup.

655. Schaefer's diatomaceous earth had a density of 1,688 lbs/cu.yd. because it was predominantly liquid. (TPP 199(a), Attachment 2A.)

656. Schaefer disposed of 3,731 tons of diatomaceous earth and waste syrup combined each year. (17 cu.yd./day x 1,688 lbs/cu.yd. x 1 ton/2,000 lbs = 14.35 tons/day.) (14.35 tons/day x 5 days/week x 52 weeks/year = 3,731 tons/year.) This is substantially in line with Stroh's estimates.

\*70 657. Reeser's drivers testified that they could not recall hauling the diatomaceous earth to the Site. However, Oswald testified that Schaefer disposed of 20 yard rolloff containers of a black liquid that smelled like beer. (Oswald, Tr. 9/21/94 at 19.) Likewise, Selig testified that the diatomaceous earth was disposed of at the Site and described it as being dark gray. (Selig, Tr. 9/21/94 at 67-68, 184-85.)

658. Reeser hauled Schaefer's waste to the Site about ten times. (DeLong, Dep. 3/31/93 at 145, 147.) Accordingly, the court finds that Schaefer arranged for the disposal of about 143.5 tons of diatomaceous earth and waste syrup at the Site.

#### (c) Waste Beer

659. The brewery disposed of any beer that did not meet company specifications ("off-spec beer"), as determined by the quality assurance department. (Kepic, Dep. 3/26/94 at 109.)

660. Each time the brewery anticipated disposing of off-spec beer, Schaefer notified the Bureau of Alcohol, Tobacco and Firearms ("ATF") that it intended to dispose of the beer. An ATF representative usually would accompany the loads of beer to the landfill to ensure that they were compacted properly. (Kepic, Dep. 3/26/94 at 106-09.)

661. The off-spec beer usually was disposed at Reeser's landfill. (DeLong, Dep. 3/31/93 at 147-48;

Palmer, Dep. 3/26/93 at 22-23; Kepic, Dep. 3/26/93 at 105-06.)

662. In 1975, however, Schaefer disposed of off-spec beer at the Site on one occasion. Each load was dumped from a 30-cubic yard truck and compacted at the Site. (Oswald, Tr. 9/21/94 at 21-22, 28-29, 32; Selig, Tr. 9/21/94 at 71-72.) Selig charged Reeser the tipping fee for these loads. (Selig, Tr. 9/21/94 at 72.)

663. Schaefer's off-spec beer had a density factor of 1,688 lbs/cu.yd. because it was predominantly liquid. (TPP 199(a), Attachment 2A.)

664. Based on a comparison of Stroh's estimate of the annual volume of waste beer and Oswald's and Selig's observations, the court finds that Schaefer disposed of approximately 454 tons of off-spec beer at the Site.

a. Oswald and Selig testified that Schaefer disposed of 26 to 28 30-cubic yard loads of off-spec beer. (Oswald, Tr. 9/21/94 at 21-22; Selig, Tr. 9/21/94 at 71-72.) This would amount to 658 to 709 tons. (30 cu.yd./load x 26 or 28 loads) x (1,688 lbs/cu.yd.) x (1 ton/2,000 lbs.) However, although their testimony generally is credible, Oswald and Selig may have overestimated the number of trucks they saw.

b. Stroh estimated that Schaefer disposed of zero to 500 tons of waste beer per year. (TPD 463, Table 1.) The court accepts that there may have been years when little or even no beer was rejected at the brewery. However, in light of the fact that Selig and Oswald clearly recall a large amount of off-spec beer being dumped at once, 1975 most likely was a year in which the amount of off-spec beer generated by the brewery was close to, or in excess of, Stroh's estimate of 500 tons.

\*71 c. Waste beer from the Schaefer brewery generally was disposed of twice a year. (Palmer, Dep. 3/26/93 at 23; Kepic, Dep. 3/26/93 at 111.)

d. The court will estimate that the actual amount of off-spec beer disposed of at the Site is somewhere between Stroh's estimate and what Oswald and Selig recollect it to be. Accordingly, the court finds that Schaefer disposed of 454 tons of off-spec beer at the Site.

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i. Based on Stroh's estimate of 500 tons per year, and the assumption that the off-spec beer was disposed of in two equal batches, the amount disposed of in a single batch would be 250 tons.

ii. Because Oswald and Selig probably overestimated the volume, the court will use Oswald's estimate (658 tons), which is lower than Selig's estimate.

iii. The midpoint of the range between Stroh's estimate and Oswald's is 454 tons.  $[(658 - 250)/2 + 250]$  This works out to about 18 30-cubic yard trucks.

#### (d) Packaging Waste and General Trash

665. The packaging process at the brewery generated waste including corrugated cardboard, bottles, cans, and labels. Most of the corrugated cardboard, glass, and cans were recycled or reused by Schaefer. (TPD 463, Tables 1 & 2; Palmer, Dep. 3/26/93 at 68-69.) However, some of these materials occasionally were hauled to various landfills with the other trash. (Kepic, Dep. 3/26/93 at 93-98, 105-06, 111; TPD 1509-12.)

666. Cardboard waste from the brewery generally was disposed of in a 42-yard compactor box and hauled to a recycling plant in Bethlehem, Pennsylvania. (DeLong, Dep. 3/31/93 at 145; Ryder, Dep. 4/8/92 at 73; TPD 1522.)

667. Reeser emptied a 42-yard compactor container and several open boxes, ranging in size from 6 to 30 cubic yards, which contained broken bottles, cardboard, and general trash, on a daily basis. (DeLong, Dep. 3/31/93 at 146-47; TPD 1522.) The court estimates that the equivalent of two 30-yard containers of general trash and packaging waste probably were sent to landfills, in light of the evidence that a majority of the waste was recyclable and was, in fact, recycled.

668. These materials were disposed of at the Site about ten times. (DeLong, Dep. 3/31/93 at 145, 147.)

669. Stroh estimated that Schaefer disposed of 1,700 to 1,800 tons of compacted trash per year, and 400 to 450 tons of loose trash per year. (TPD 463, Table 1.)

670. The court finds that the Schaefer brewery disposed of about 180 tons of general plant trash and packaging waste such as glass and cardboard at the Site. The court's calculations are as follows:

a. Compactor box:  $42 \text{ ccy} \times 500 \text{ lbs/ccy} \times 1 \text{ ton}/2,000 \text{ lbs} = 10.5 \text{ tons/day}$ .  $10.5 \text{ tons/day} \times 5 \text{ days/week} \times 52 \text{ weeks/yr.} = 2,730 \text{ tons/year}$ . (TPP 960)

b. Open boxes:  $30 \text{ cu.yd./box} \times 2 \text{ boxes/day} \times 250 \text{ lbs/cu.yd.} \times 1 \text{ ton}/2,000 \text{ lbs} = 7.5 \text{ tons/day}$ .  $7.5 \text{ tons/day} \times 5 \text{ days/week} \times 52 \text{ days/yr} = 1,950 \text{ tons/year}$ . (TPP 960)

c. Total to Site:  $10.5 \text{ tons/day compacted} + 7.5 \text{ tons/day loose} = 18 \text{ tons/day}$ .  $18 \text{ tons/day} \times 10 \text{ days} = 180 \text{ tons to Site}$ .

#### (e) Waste Labels

\*72 671. The brewery had a returnable bottle washing and sanitizing operation where bottles were rinsed with a caustic solution made of 5% sodium hydroxide and water which removed the labels. (TPD 461 at ¶ 22.) The caustic solution dissolved the labels so that they would fall off the bottle. (Palmer, Dep. 3/26/93 at 77.)

672. The labels settled to the bottom of the soaker where they were allowed to drain before being thrown into a 1 1/2 cubic yard container. When disposed, the labels had the consistency of a "mushy pulp" and a dark gray color. (Palmer, Dep. 3/26/93 at 76-77.) Generally, two 1 1/2 cubic yard containers full of the labels were disposed each day.

673. The bottle washing operation also generated whole white labels. (Palmer, Dep. 3/26/93 at 79.) These were disposed of in containers with the capacity of three to four cubic yards, three times per day. (Palmer, Dep. 3/26/93 at 79-80.)

674. The waste labels consisted of 75% solid and 25% moisture. (TPD 461 at ¶¶ 48, 56, 79.)

675. All of the labels from the bottle washing operation were landfilled along with the general plant trash. (Palmer, Dep. 3/26/93 at 82-83.)

676. Stroh estimated that Schaefer disposed of approximately 150 to 400 tons of waste labels annually. (TPD 463, Table 1.)

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677. The court finds that the brewery generated about 12 cubic yards of waste labels daily. (1.5 cu.yd./container x 2 containers/day) + (3 cu.yd./container x 3 containers/day)

678. Based on the above, the court finds that the Schaefer brewery generated about 1.5 tons of waste labels each day. (12 cu.yd. x 250 lbs/cu.yd. x 1 ton/2,000 lbs.) This comes to about 390 tons per year. (1.5 tons/day x 5 days/week x 52 weeks/year.)

679. Reeser disposed of Schaefer's waste at the Site about ten times. (DeLong, Dep. 3/31/93 at 145, 147.) Accordingly, approximately 15 tons of waste labels from the brewery were disposed of at the Site.

680. The court finds that a uniform waste strength score of '7' should be assigned to Schaefer's waste.

#### R. TBA AUTO BODY PARTS, INC.

##### (1) *Ownership and Operations*

681. Third-Party Defendant TBA Auto Body Parts, Inc. ("TBA") is a corporation incorporated under the laws of the Commonwealth of Pennsylvania.

682. During the relevant time period, TBA operated a wholesale auto part business in Emmaus, Pennsylvania. (Ryder, Tr. 12/9/93 at 212.)

##### (2) *Use of the Dorney Road Landfill*

683. From 1970 through the end of the relevant time period, Reeser's Hauling Service hauled TBA's waste. (Ryder, Tr. 12/9/93 at 212.) Reeser was TBA's only hauler during that period. (Ryder, Tr. 12/9/93 at 213.)

684. Reeser used the Site regularly through the end of 1971. (TPP 2)

685. Reeser opened his own landfill in January 1972. (TPP 2; TPP 942.) Thereafter, he continued to use the Dorney Road landfill until March 1977, but only sporadically. (TPP 2)

##### (3) *Waste Disposed at the Site*

\*73 686. TBA disposed of empty plastic jugs, paper, wood, shrink wrap, dirt, and Speedy Dry. (Ryder, Tr. 12/9/93 at 213.) The empty plastic jugs

had contained antifreeze or windshield washer fluid. (Ryder, Tr. 12/9/93 at 213.)

687. TBA's waste contained methanol. (TPD 1533(c) at 27.)

688. TBA deposited its waste in an 8 cubic yard rear loader container that Reeser's drivers picked up daily. The container was full when picked up. (Ryder, Tr. 12/9/93 at 212.)

689. From January 1970 through December 1971, TBA disposed of 4,160 cubic yards of waste at the Site. (8 cu.yd./day x 5 days/week x 104 weeks = 4,160 cu.yd.) TBA's waste had a density of 250 lbs/cu.yd. (TPP 199(a), Attachment 2A.) Accordingly, TBA disposed of 520 tons of waste at the Site between January 1970 and December 1971. (4,160 cu.yd. x 250 lbs/cu.yd. x 1 ton/2,000 lbs.)

690. Based on Dovell's method of calculating volume based on Reeser's customer list and the Selig Log, the court estimates that TBA disposed of 85.14 tons of waste at the Site between January 1972 and March 1977.

a. Charges to the TBA represent 0.495% of the total charges reflected on Reeser's customer list. (TPP 4)

b. The Selig Log reflects charges to Reeser totaling \$59,361 between January 1972 and March 1977. (TPP 2) Based on the Site's general charge of \$1.00 per compacted cubic yard, this signifies that Reeser dumped 59,361 compacted cubic yards of waste at the Site during that period. (Dovell, Tr. 7/27/94 at 130; see Ryder, Tr. 12/9/93 at 212 (waste was hauled in rear loader); DeLong, Dep. 3/31/93 at 24 (Reeser's rear loaders were compactors).)

c. About 12% of Reeser's waste may have been attributable to one customer during the relevant time period although this is not reflected on the customer list. Accordingly, Dovell reduced the total charges to be allocated to the remaining customers by 12%. (TPP 1020 (Saucony calculation).) The waste to be divided between the listed customers thus amounts to 52,237.68 cubic yards. (59,361 x 0.88)

d. TBA's share of the waste comes to 258.58 cubic yards. (52,237.68 x 0.00495) Applying a density factor of 660 lbs/cu.yd., TBA's proportionate share amounts to 85.33 tons. (258.58 cu.yd. x 660 lbs/



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cu.yd. x 1 ton/2,000 lbs.)

691. TBA disposed of approximately 605.33 tons of waste at the Site.

692. The court finds that a waste strength score of '7' is appropriate for TBA's waste.

#### S. SETTLED PARTIES

693. Third-Party Plaintiffs have reached settlements with certain Third-Party Defendants (the "settled Third-Party Defendants" or "settled parties"). The settlements have a total value of \$8,111,770. (TPP 1036; Tr. 8/1/94 at 183.)

694. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the City of Allentown that has a value of \$4,013,600. (TPP 1036)

695. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the Borough of Kutztown that has a value of \$562,500. (TPP 1036)

\*74 696. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the Borough of Alburtis that has a value of \$160,000. (TPP 1036)

697. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the Borough of Emmaus that has a value of \$395,000. (TPP 1036)

698. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Kleinert's, Inc. that has a value of \$290,000. (TPP 1036)

699. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Sacred Heart Hospital that has a value of \$135,000. (TPP 1036)

700. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Bethlehem Suburban Motor Sales, Inc. that has a value of \$44,500. (TPP 1036)

701. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Dent Manufacturing that has a value of \$9,500. (TPP 1036)

702. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Diamond Industries t/a

Altamos Fuel Oil that has a value of \$9,500. (TPP 1036)

703. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Eastern Industries, Inc. that has a value of \$12,500. (TPP 1036)

704. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant C. R. Fegley & Sons Signs that has a value of \$5,000. (TPP 1036)

705. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Keh's Garage that has a value of \$5,000. (TPP 1036)

706. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Metropolitan Edison Company that has a value of \$12,500. (TPP 1036)

707. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Olin Corporation that has a value of \$99,000. (TPP 1036)

708. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Schwoyer's Painting & Paperhanging that has a value of \$5,000. (TPP 1036)

709. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Scott Chevrolet, Inc. that has a value of \$100,000. (TPP 1036)

710. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Stanley-Vidmar, Inc. that has a value of \$75,000. (TPP 1036)

711. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Texapol Corporation that has a value of \$44,500. (TPP 1036)

712. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Wheel & Crawler Equipment Co. that has a value of \$8,000. (TPP 1036)

713. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant White Consolidated Industries, Inc. that has a value of \$156,195. (TPP 1036)

714. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Frey's Service Station

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that has a value of \$2,500. (TPP 1036)

715. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Lehigh Valley Hospital t/a Allentown Hospital that has a value of \$175,000. (TPP 1036)

\*75 716. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Persing Auto Body & Repair Shop that has a value of \$7,500. (TPP 1036)

717. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Square D Company that has a value of \$125,000. (TPP 1036)

718. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Tyler Pipe Industries (Penn Division), Inc. that has a value of \$65,000. (TPP 1036)

719. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Air Products and Chemicals, Inc. that has a value of \$400,000. (TPP 1036)

720. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Allentown Brake and Wheel Service, Inc. that has a value of \$48,125. (TPP 1036)

721. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant American Marketing Industries, Inc. and Beatrice Companies, Inc. that has a value of \$113,225. (TPP 1036)

722. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Armstrong World Industries, Inc. that has a value of \$225,000. (TPP 1036)

723. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant A-Treat Bottling Co. that has a value of \$50,000. (TPP 1036)

724. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Carl R. Bieber, Inc. that has a value of \$50,000. (TPP 1036)

725. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the Borough of Catasqua that has a value of \$80,000. (TPP 1036)

726. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant the Borough of Macungie that has a value of \$68,125. (TPP 1036)

727. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Beatrice Companies d/b/a/ Dorney Printing/Day-Timers that has a value of \$125,000. (TPP 1036)

728. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Kutztown Publishing Co., Inc. that has a value of \$140,000. (TPP 1036)

729. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant Kutztown University that has a value of \$60,000. (TPP 1036)

730. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant J.D. Snyder Co., Inc. t/a Circle S Auto Parts that has a value of \$20,000. (TPP 1036)

731. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant W. R. Grace & Co. - Conn. that has a value of \$200,000. (TPP 1036)

732. Third-Party Plaintiffs have reached a settlement with Third-Party Defendant ElectroChemical Engineering and Manufacturing that has a value of \$15,000. (TPP 1036)

#### T. ORPHAN SHARES

733. An "orphan share" refers to a portion of liability for recoverable costs that would be allocated to a party that is impecunious, not subject to a judgment, or otherwise not available to satisfy a judgment.

734. The court makes no finding at this time on the presence or treatment of orphan shares.

#### DISCUSSION

##### I. STATUTORY FRAMEWORK

##### A. CERCLA

\*76 CERCLA was enacted in 1980 to accomplish a "swift and effective response to hazardous waste sites" by placing the "cost of that response on those responsible for creating or maintaining the

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hazardous condition." *United States v. Mexico Feed & Seed Co., Inc.*, 980 F.2d 478, 486 (8th Cir. 1992) (citing *Anspec Co. v. Johnson Controls, Inc.*, 922 F.2d 1240, 1247 (6th Cir. 1991)). Courts have interpreted CERCLA's provisions broadly in order to effectuate its legislative purposes. *See Dedham Water Co. v. Cumberland Farms Dairy*, 805 F.2d 1074, 1081 (1st Cir. 1986); *Anspec*, 922 F.2d at 1247; *United States v. Witco Corp.*, 865 F. Supp. 245, 247 (E.D. Pa. 1994) ("CERCLA must be construed liberally to effectuate its two primary goals: (1) enabling the EPA to respond efficiently and promptly to toxic spills, and (2) holding parties responsible for releases liable for the costs of the cleanup.") This is consistent with the established rule that remedial statutes should be construed liberally. *See generally* Norma J. Singer, 3 Sutherland Statutory Construction § 60.01 (5th ed. 1992).

The statute provides two separate mechanisms for cleaning up contaminated sites. First, EPA may conduct a Superfund-financed cleanup under 42 U.S.C. § 9604, followed by a cost recovery action against PRPs under 42 U.S.C. § 9607. Alternatively, EPA may order a private party cleanup pursuant to 42 U.S.C. § 9606.FN14 Four elements are necessary to establish a defendant's liability under § 107(a): (1) the site in question is a "facility" as defined at 42 U.S.C. § 9609(9); (2) the party is a "responsible person" as defined at 42 U.S.C. § 9607(a); (3) there has been a release or threatened release of hazardous substances at the site; and (4) the release or threatened release has caused the plaintiff to incur response costs.FN15 *Environmental Transp. Systems, Inc. v. Ensco, Inc.*, 969 F.2d 503 (7th Cir. 1992). Section 9607(a) establishes four categories of responsible persons:

- (1) the owner and operator of a ... facility,
- (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
- (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility ..., and
- (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites

selected by such person ....

42 U.S.C. § 9607(a). Liability under CERCLA is strict. *United States v. Alcan Aluminum Corp.*, 964 F.2d 252, 259 (3d Cir. 1992).

CERCLA was reauthorized and amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Pub.L. 99-499, 100 Stat. 1613 (1986). As part of the SARA amendments, Congress added § 113(f)(1), which expressly authorizes contribution actions between liable parties. 42 U.S.C. § 9613(f)(1).

## B. COST RECOVERY VERSUS CONTRIBUTION

\*77 Third-Party Plaintiffs have asserted two distinct claims against the Third-Party Defendants. First, they seek recovery of response costs they have incurred and will incur in the future in connection with their implementation of the chosen remedy at the Site. *See* 42 U.S.C. § 9607(a). Second, they seek contribution for sums already paid in connection with their settlement with the Government. *See* 42 U.S.C. § 9613(f). Third-Party Defendants have asserted contribution counterclaims against all Third-Party Plaintiffs under § 113(f). *See* 42 U.S.C. § 9613(f).FN16

Third-Party Defendants argue that Third-Party Plaintiffs' claims must be interpreted as a single claim for contribution. They cite *United Technologies Corp. v. Browning-Ferris Indus.*, 33 F.3d 96 (1st Cir. 1994), *cert. denied*, 513 U.S. 1183, 115 S. Ct. 1176, 130 L. Ed. 2d 1128 (1995), in which the Court of Appeals for the First Circuit held that the enactment of § 113 precludes any right of recovery by "non-innocent" parties under § 107(a). The court stated that "it is sensible to assume that Congress intended only innocent parties -- not parties who were themselves liable -- to be permitted to recoup the whole of their expenditures." *Browning-Ferris*, 33 F.3d at 100. FN17

This court is unable to unearth any statutory support for such an assumption. A parsing of CERCLA reveals no basis upon which to preclude "non-innocent" parties from seeking recovery of response costs under § 107(a). That section provides that "covered persons" shall be liable for "any other necessary costs of response incurred by any other

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person consistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(B) (emphasis added). FN18 Section 113(f)(1) provides:

Any person may seek contribution from any other person who is liable or potentially liable under section 9607(a) of this title, during or following any civil action under section 9606 of this title or under section 9607 of this title.

42 U.S.C. § 9613(f)(1).FN19 "[W]hen properly construed, the two sections work together, one governing liability and the other governing contribution from those found liable. First, the plaintiff must show that the defendant has incurred section 107(a) liability. Then, it can sue for contribution under section 113(f)(1)." *Transtech Indus. v. A & Z Septic Clean*, 798 F. Supp. 1079, 1086 (D.N.J. 1992), *appeal dismissed*, 5 F.3d 51 (3d Cir. 1993), *cert. denied sub nom, Mayco Oil & Chemical Co. v. Transtech Indus.*, ---U.S. ---, 114 S. Ct. 2692, 129 L. Ed. 2d 823 (1994).FN20 Additionally, Third-Party Plaintiffs are free to bring counterclaims for contribution at any time during the pendency of Third-Party Plaintiffs' case. *See* 42 U.S.C. § 113(f)(1).

In *United States v. SCA Services of Indiana, Inc.*, 849 F.Supp. 1264 (N.D. Ind. 1994), the court declined to follow the reasoning of the District Court's decision in *Browning-Ferris*, FN21 explaining:

\*78 First, contrary to the *Browning-Ferris* court's statement, it is not clear from the language of § 113 that Congress intended for a party who has already settled the issue of its own liability with the government to be limited solely to a § 113 contribution action. If the language of § 113 clearly resolved this issue, there would not be such a profusion of diverse and conflicting opinions discussing the issue. Second, the *Browning-Ferris* court's distinction between plaintiffs who incur costs 'of their own initiative,' and on that basis possibly retain a right to pursue § 107 actions, and plaintiffs who are subject to a suit by the USEPA or other governmental body, and for that reason lose the right to pursue § 107 actions, is not supported by the CERCLA statute itself.

849 F. Supp. at 1281. The *SCA* decision is instructive, but it is important to note that in that case, *SCA* was not a liable party. *Id.* at 1283. Thus, the court reasoned, *SCA* could not properly

maintain a contribution action, which is necessarily an action by and between liable parties. *Id.* at 1283. FN22

In *General Electric Co. v. Litton Industrial Automation Systems, Inc.*, 920 F.2d 1415 (8th Cir. 1990), *cert. denied*, 499 U.S. 937, 111 S. Ct. 1390, 113 L. Ed. 2d 446 (1991), the court rejected Litton's argument that GE should not be allowed to maintain an action under § 107(a) simply because GE had initiated the cleanup under threat of a lawsuit. The court stated that:

CERCLA does not provide for an "unclean hands" defense ... the motives of the private party attempting to recoup response costs under 42 U.S.C. § 9607(a)(4)(B) are irrelevant. The purpose of allowing a private party to recover its response costs is to encourage timely cleanup of hazardous waste sites. This purpose would be frustrated if a plaintiff's motives were subject to question. We will not look at the impetus behind a plaintiff's decision to begin the cleanup process ....

*General Electric*, 920 F.2d at 1418. Like the *SCA* court, the *General Electric* court had no occasion to consider whether GE's recourse should be a contribution action as opposed to a cost recovery action because GE was not a liable party.

To allow settling PRPs to pursue a cost recovery action would advance CERCLA's bedrock policy goals. In *Allied Corp. v. Acme Solvents Reclaiming, Inc.*, 691 F. Supp. 1100 (N.D. Ill. 1988), the court observed:

Policies underlying CERCLA support the notion that claims between PRP's are not always, and should not always be, in the nature of contribution. As noted earlier, CERCLA seeks the expeditious and safe clean up of hazardous waste sites. A blanket prohibition against joint and several liability in claims between responsible parties would discourage a willing PRP from cleaning up on its own. This is especially true where one or more of the parties are insolvent and, thus, incapable of sharing the costs of cleanup. In this situation, a PRP which is otherwise amenable to cleaning up may be discouraged from doing so if it knows that, where the harm is indivisible, its only recourse for reimbursement is contribution from the solvent PRP's. A prohibition against joint and several liability would leave the willing PRP holding the bag for the insolvent companies.



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\*79 691 F.Supp. at 1118. *See also Barton Solvents v. Southwest Petro-Chem*, No. CIV.A. 91-2382-GTV, 1993 WL 382047 (D. Kan. Sept. 14, 1993).

Other courts have allowed "non-innocent" parties to proceed against non-settling parties under § 107(a). For instance, in *United States v. Kramer*, 757 F. Supp. 397 (D.N.J. 1991), the court held that, where the government was alleged to be liable as a generator at the site in question, "[t]he Government's potential liability for contribution does not affect this section 107(a) response cost recovery action." 757 F. Supp. at 414. The court held that the government could still recoup its costs despite its apparent liability, subject of course to equitable apportionment by way of an eventual § 113 claim by other PRPs. The court explained:

CERCLA was enacted to facilitate cleanup at the tens of thousands of hazardous waste sites in this country. Section 107 permits the Government or a private party to go in, clean up the mess, pay the bill, then collect *all* its costs not inconsistent with the NCP from other responsible parties -- even if plaintiff was also responsible for the contamination. Any PRP is entitled under section 113 to bring a contribution action against other PRPs -- including the PRP who previously cleaned up the mess and was paid for its trouble through a section 107 proceeding -- to apportion costs equitably among all the PRPs. Practically speaking, section 107 permits a PRP, including the Government, to collect all its response costs, even those that that same PRP may be required to pay back to other PRPs as its equitable share in a section 113 proceeding.

*Kramer*, 757 F. Supp. at 416.FN23 The *Kramer* court correctly observed that § 107 provides an important incentive for PRPs to undertake cleanup of hazardous waste sites by assuring them that they will be able to recover all of their costs, even if their recovery is reduced in a subsequent contribution action. *Id.* The court also pointed out that a PRP's ability to recover its costs under § 107 causes no inequity to the other PRPs, since contribution may be sought during the pendency of the § 107(a) action. Thus, honoring the incentives created by § 107(a), the court declined to apportion costs in the cost recovery phase of the case, holding instead that apportionment would be proper only during the contribution phase. *Id.* at 417. Although the court declined to collapse the § 113(f) action with the § 107 action, it acknowledged that the actions could

proceed concurrently, thereby achieving essentially the same result.

In *Chesapeake and Potomac Tel. Co. v. Peck Iron & Metal Co., Inc.*, 814 F. Supp. 1269 (E.D. Va. 1992), the court held that CERCLA simply does not support the assertion that only an "innocent" party may bring a cost recovery action under § 107(a). 814 F. Supp. at 1277. However, the court declared that it would limit the plaintiffs' § 107(a) recovery to those costs attributable to the defendants. In this sense, it diverged from *Kramer* and essentially built an apportionment element into § 107(a). This court agrees with *Chesapeake* insofar as it allows "non-innocent" parties to proceed under § 107(a), but stops short of agreeing that a party's "joint and several" liability may be reduced by the portion attributable to another party. Instead, equitable apportionment may only be accomplished in the context of a § 113(f) contribution claim.

\*80 In *T H Agriculture & Nutrition Co. v. Aceto Chemical Co., Inc.*, 884 F. Supp. 357 (E.D. Cal. 1995), the court criticized *Kramer*, stating that "[a]ll that the *Kramer* opinion actually accomplishes is another round of litigation -- as defendant PRPs counterclaim against the plaintiff PRP to effectuate their recovery. Such an approach guarantees inefficiency, potential duplication, and prolongation of the litigation process in a CERCLA case." 884 F. Supp. at 361. *See also Ciba-Geigy Corp. v. Sandoz Ltd.*, No. CIV.A. 92-4491, 1993 WL 668325, \*7 (D.N.J. 1993) ("allowing a non-governmental PRP to recover its entire response costs under § 107(a) from another PRP would be both procedurally unwieldy and substantively unfair"). However, under CERCLA, streamlining litigation is secondary to promoting the swift and effective cleanup of hazardous waste disposal sites.

The spectre of protracted litigation should not impel courts to evade a methodology that is designed to encourage responsible parties to undertake cleanup. CERCLA is widely regarded as a statute "riddled with inconsistencies and redundancies," *Alcan*, 964 F.2d at 258 n.5, "not a paradigm of clarity or precision." *Artesian Water Co. v. Government of New Castle County*, 851 F.2d 643, 648 (3d Cir. 1988). However, CERCLA's inherent unmanageability does not authorize the court to rewrite its provisions to simplify the unwieldy process that Congress established to carry out its

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mandate. Additionally, defendant PRPs need not wait for a "second round" to litigate their contribution claims; they may bring those claims at any time during the pendency of the plaintiff PRPs' cost recovery action. 42 U.S.C. § 113(f)(1). In this case, they have done so, and all claims will be considered in this single proceeding.

The Court of Appeals for the Sixth Circuit adopted this approach. In *Amcast Indus. Corp. v. Detrex Corp.*, 2 F.3d 746 (7th Cir. 1993), *cert. denied*, --- U.S. ---, 114 S. Ct. 691, 126 L. Ed. 2d 658 (1994), the court held that CERCLA permits responsible person to recover all or part of its response costs from another under § 107(a). 2 F.3d at 748. The court stated:

The statute is clear that whoever (like Elkhart) incurs costs in cleaning up a contaminated site can seek to recover them from any responsible person, and if the responsible person believes as Detrex does that his contribution to the mess was trivial and wants the point established promptly he can counterclaim for as large a percentage of the costs as he thinks he can prove was due to the plaintiff's own conduct.... The counterclaim if promptly filed will doubtless be tried at the same time as the main claim, so the defendant will at no time be out of pocket by more than the share of the response costs attributable to his own conduct.

*Amcast*, 2 F.3d at 748-49.

This court agrees with *Amcast*, *Kramer*, and *Chesapeake*, and therefore holds that § 113(f) does not affect the viability of a private § 107(a) claim for recovery of response costs.FN24 First, the phrase "any person," as it appears in § 107(a), must be given its plain meaning. The term "contribution" must also be given its plain meaning, as an action by and between jointly and severally liable parties. Whether the party bringing the § 107(a) claim to establish a PRP's joint and several liability is "innocent" or "non-innocent," is inconsequential. Thus, Third-Party Plaintiffs are entitled to proceed under § 107(a) as well as under § 113(f). For purposes of this action, the distinction is meaningful only because it defines the contours of the third-party action and, importantly, establishes the burden of proof to be borne by each party.FN25

\*81 Third-Party Plaintiffs have the burden of establishing the Third-Party Defendants' status as

"covered persons" under § 107(a). Such a showing renders the Third-Party Defendants jointly and severally liable for the past and future response costs incurred at the Site. Third-Party Plaintiffs concurrently seek an equitable apportionment of past response costs under § 113(f), and thus have the additional burden of proving each Third-Party Defendant's equitable share.

Third-Party Defendants have brought counterclaims for contribution against Third-Party Plaintiffs pursuant to § 113(f). They must, therefore, carry the burden of proving each Third-Party Plaintiff's equitable share. At the end of the day, the court will allocate the past and future response costs, applying equitable factors under § 113(f).

### C. EQUITABLE FACTORS

As the court noted above, § 113(f)(1) provides that the court "may allocate response costs among liable parties using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1). Six factors delineated in an unsuccessful CERCLA amendment proposed by then-Representative Albert Gore (the "Gore factors") often are cited as appropriate. The Gore amendment provided in part: In apportioning liability ... the court may consider among other factors, the following:

- (i) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished;
- (ii) the amount of the hazardous waste involved;
- (iii) the degree of toxicity of the hazardous waste involved;
- (iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
- (v) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such waste; and
- (vi) the degree of cooperation by the parties with Federal, State, or local officials to prevent any harm to the public health or the environment.

126 Cong. Rec. 26,779, 26,781 (1980). SARA's legislative history cites the Gore factors as criteria which a court might consider in apportioning liability under § 113(f)(1). H.R.Rep. No. 253 (III), 99th Cong., 1st Sess. 19 (1985), *reprinted in* 1986 U.S.C.C.A.N. 3038, 3042.

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The Gore factors are not an exclusive nor an exhaustive list of the criteria to be considered when allocating liability in a contribution action. *United States v. R.W. Meyer, Inc.*, 932 F.2d 568, 576-77 (6th Cir. 1991). In fact, the broad language embodied in § 113(f)(1) "confirms the legislative intent to grant courts flexibility in exercising their discretion." *Id.* at 576. Courts have eschewed enumerating specific factors, as it is widely recognized that allocation of response costs is a decision particularly suited to case-by-case determination. *Ensco*, 969 F.2d at 509.

In the instant case, the volume and toxicity of each party's various waste streams had an impact on the Site's placement on the NPL and selection of the remedy that subsequently was ordered. Accordingly, the court finds these factors to be particularly relevant to the apportionment of liability here. See *Control Data Corp. v. Musicland Group, Inc.*, No. 3-91-716, slip op. at 34-35 (D. Minn. Feb. 17, 1994); *rev'd sub nom in part on other grounds*, *Control Data Corp. v. S.C.S.C. Corp.*, 53 F.3d 930 (8th Cir. 1995). In *Control Data*, the appeals court stated:

\*82 Once again, CERCLA, in the allocation stage, places the costs of response on those responsible for creating the hazardous condition. Allocating responsibility based partially on toxicity does just that because those who release substances that are more toxic are more responsible for the hazardous condition.

*Control Data*, 53 F.3d at 938.

Courts have used an array of factors, including any Gore factors they have found to be relevant. *CMC Heartland Partners v. General Motors Corp.*, No. CIV.A. 92-4449, 1994 WL 498357 (N.D. Ill. 1994). See, e.g., *Ensco*, 969 F.2d at 509 (relative fault); *CPC International, Inc. v. Aerojet-General Corp.*, 777 F. Supp. 549 (W.D. Mich. 1991) (the parties' degree of involvement in waste disposal and the degree of care that the parties exercised); *Weyerhaeuser Co. v. Koppers Co.*, 771 F. Supp. 1420, 1426 (D. Md. 1991) (the benefits the parties received from, and the parties' knowledge or acquiescence in, contaminating activities).

The parties' relative fault is often cited as a relevant factor. *Ensco*, 969 F.2d at 509.FN26 In this case, the concept of fault is limited to objective

considerations, such as which parties' waste streams contributed to the harm at the Site that now requires remediation. Third-Party Defendants argue that the presence of hazardous waste caused the Site to be listed on the NPL and caused the selection of the expensive multi-layer cap as a permanent remedy. At the same time, the cost of the remedy is partially a function of the volume of waste at the Site. Every party to this case contributed to the growth of this co-disposal landfill. Thus, the court's overall assessment of equitable factors in this case will focus primarily on volume and toxicity.

#### D. SETTLED SHARES

Third-Party Defendants' liability will be reduced by the equitable shares of those Third-Party Defendants which have settled. See, e.g., *Lyncott Corp. v. Chemical Waste Management, Inc.*, 690 F. Supp. 1409, 1417-18 (E.D. Pa. 1988). See also *Barton Solvents v. Southwest Petro-Chem*, 834 F. Supp. 342 (D. Kan. 1993); *Comerica Bank - Detroit v. Allen Industries, Inc.*, 769 F. Supp. 1408, 1414 (E.D. Mich. 1991); *Edward Hines Lumber Co. v. Vulcan Materials Co.*, No. CIV.A. 85-1142, 1987 WL 27368, \*2 (N.D. Ill. 1987); *United States v. Conservation Chemical Co.*, 628 F. Supp. 391 (W.D. Mo. 1985). This approach follows the Uniform Comparative Fault Act ("UCFA"), which provides:

A release, covenant not to sue, or similar agreement entered into by a claimant and a person liable discharges that person from all liability for contribution, but it does not discharge any other persons liable upon the same claim unless it so provides. However, the claim of the releasing person against other persons is reduced by the amount of the released person's equitable share of the obligation ....

Uniform Comparative Fault Act § 6, 12 U.L.A. 58 (Supp. 1995). Under this approach, Third-Party Plaintiffs run the risk that the settling Third-Party Defendants' actual share of responsibility may exceed their settlement amounts. Thus, Third-Party Plaintiffs are motivated to ensure that they "obtain a settlement that is closely related to the probable proportionate share for which the settling defendant would have been responsible." *Comerica*, 769 F. Supp. at 1414.

\*83 CERCLA § 113(f)(2), which was enacted as

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part of SARA, provides:

A person who has resolved its liability to the United States or a State in an administrative or judicially approved settlement shall not be liable for claims for contribution regarding matters addressed in the settlement. Such settlement does not discharge any of the other potentially liable persons unless its terms so provide, but it reduces the potential liability of the others by the amount of the settlement.

42 U.S.C. § 9613(f)(2). Some courts have held that § 113(f)(2) supplants application of the UCFA to CERCLA settlements. *In re Acushnet River & New Bedford Harbor*, 712 F. Supp. 1019, 1026 n.10 (D. Mass. 1989). Section 113(f)(2) "compels the non-settlers to absorb the shortfall" between the settlement amount and the settler's equitable share. *City of New York v. Exxon Corp.*, 697 F. Supp. 677, 681 n.5 (S.D.N.Y. 1988). However, § 113(f)(2) applies only to settlements with the United States or a State, and does not affect the propriety of applying the UCFA approach to Third-Party Defendant settlements in this case. *American Cyanamid Co. v. King Industries, Inc.*, 814 F. Supp. 215 (D.R.I. 1993). See also *United States v. Western Processing Co.*, 756 F. Supp. 1424, 1432 (W.D. Wash. 1990).

In any event, the parties are in general agreement that the settled Third-Party Defendants' settlement amounts should be presumed to represent their equitable shares at this time. No party has elicited evidence that the equitable share of any settled party is different from the value of that party's settlement. The court, therefore, will treat the settlement values as representative of the settled parties' equitable shares and will reduce the Third-Party Defendants' liability accordingly.

#### E. ORPHAN SHARES

Some courts have considered the relative financial resources of the parties as an equitable factor bearing on allocation. *Central Maine Power Co. v. F. J. O'Connor Co.*, 838 F. Supp. 641, 647 (D. Me. 1993); see also *United States Steel Supply, Inc. v. Alco Standard Corp.*, No. CIV.A. 89-20241, 1992 WL 229252, \*14 (N.D. Ill. 1992). In the instant case, relative financial resources may be relevant with respect to some of the individual haulers who remain as Third-Party Defendants and

apparently are unable to absorb a significant portion of the cleanup costs. However, no evidence has been introduced from which the court could assess these parties' financial positions. Therefore, each party remaining in this case will be allocated its proportionate share, irrespective of financial considerations.

Certain shares may be proven uncollectible and will have to be reallocated among the solvent parties in future proceedings. To the extent that any shares of liability are allocated to parties who are proven to be impecunious, the UCFA provides for the manner in which that "orphan" share should be allocated among the remaining parties. Uniform Comparative Fault Act § 2(d), 12 U.L.A. 51 (Supp. 1995).FN27

\*84 The court does not have the facts necessary to the determination of orphan shares at this time, as the total remediation costs will not be known for several years. Therefore, this determination must be deferred until the future response costs are actually incurred and proven to be uncollectible. The moving party will have the burden of proving that the shares are uncollectible at the time reallocation is sought.

## II. THE PARTIES' LIABILITY

### A. SCA'S LIABILITY AS A TRANSPORTER

#### (1) Site Selection as a Prerequisite to Transporter Liability Under CERCLA

In *Tippins v. USX Corporation*, 37 F.3d 87 (3d Cir. 1994), the Court of Appeals for the Third Circuit delineated the standard under which this court shall ascertain the extent of SCA's liability as a transporter under § 107(a)(4) of CERCLA.FN28 As is clear from the language of the statute, a transporter must have "selected" the disposal site in order to be held liable for contamination arising therefrom. *Tippins* interpreted § 107(a)(4) as follows:

[A] person is liable as a transporter not only if it ultimately selects the disposal facility, but also when it actively participates in the disposal decision to the extent of having had substantial input into which facility was ultimately chosen. The substantiality of the input will be a function, in part, of whether the decisionmaker relied upon the transporter's special expertise in reaching its final decision. In other words, the selection process is a continuum and, in



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the circumstances we have described, the selection is done jointly.

37 F.3d at 94-95 (footnote omitted).

There may be occasions where a hauler simply heeds the arranger's instruction to dispose of waste at a particular site. "In such cases, the transporter is no more than a conduit of the waste and its 'connection with the material is the most attenuated among potentially responsible parties.'" *Id.* (quoting *Western Processing*, 756 F. Supp. at 1420). The other extreme is the situation where the arranger relies entirely upon the transporter's special expertise, playing no role whatsoever in selecting the disposal site for its waste. At some point along the continuum, the transporter's participation in the joint selection process rises to a level where it can fairly be said that the hauler has selected the site. As *Tippins* made clear, this is partially a function of the degree to which the arranger has relied on the transporter's expertise. *Id.* at 94-95.

#### (2) SCA's Role in Selecting the Site

SCA hauled 94,908 tons of MSW to the Site between July 1976 and December 1978 under two disposal contracts with the City of Allentown. SCA contends that the City essentially commanded SCA to use the Dorney Road landfill. The court disagrees.

The invitation to bid provided that Allentown's waste would be taken to the Lehigh County site. Potential haulers were instructed to list alternate disposal sites, subject only to the City's approval, to be used in the event that the Lehigh County site became unavailable. At the pre-bid conference, SCA learned that the City's previous hauler had used the Dorney Road landfill. The City provided prospective bidders with directions to the Site.

\*85 Although the City's mention of the Site at the pre-bid conference undoubtedly influenced SCA's decision to propose the Site as one of its choices, the City's actions fall far short of a mandate that SCA use the Site. The City's suggestion of a particular landfill did not alter SCA's contractual obligation to "provide a suitable method of disposal ...." (TPP 453.B, § 3.4(d) at 7 of 18.) When SCA submitted its bid, it listed three landfills, including the Site, and the City approved all three. After the Lehigh

County site closed, SCA took Allentown's garbage to the Dorney Road Landfill. Instead of being required by the City, SCA's use of the Site resulted from a joint decision process whereby Allentown placed the onus on SCA to select an acceptable landfill at which to dump the City's garbage.

SCA claims that Allentown orally instructed it to use the Site after the Lehigh County site closed, citing Dennis Grimm's testimony that SCA took Allentown's waste to the Site with the City's "blessing." Grimm testified that "[w]e had approached the city when the facility closed about where to dump the material. We were told to go to Oswald." (Grimm, Tr. 9/29/94 at 37.) If Allentown directed SCA to use the Site at this point, it was simply making the final choice from the winnowed list that SCA provided in its bid. Under *Tippins*, the court's inquiry focuses on the selection process as a whole. Thus, it is inconsequential which party made the final decision to use the Site as opposed to the other landfills listed in the contract.

SCA attempts to distinguish the instant case from *Tippins* by pointing out that in *Tippins*, Petroclean (the hauler) surveyed a number of landfills and located two that would accept EAF dust. After contacting each landfill and gathering information about each one, Petroclean offered both to *Tippins* (the arranger). 37 F.3d at 90.

SCA argues that because it did not investigate the availability of other disposal sites, and instead only contacted the Dorney Road Landfill, its participation in the selection process was less "active" than Petroclean's. However, SCA's lack of diligence in fulfilling its role in the selection process can not later absolve it of responsibility. SCA's responsibility under the contract was to select an appropriate disposal site. The court is not concerned with how SCA went about fulfilling this obligation. Implicit in the requirement that the transporter select the disposal site is the expectation that the hauler will use its knowledge and experience to make an informed decision.

SCA also claims that because its contracts with Allentown required it to collect the City's garbage between 11:00 p.m. and 8:00 a.m., it had to dispose of the garbage at night. FN29 SCA argues that it was forced to select the Dorney Road landfill because it was the only landfill in the area that allowed

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nighttime disposal.

This argument is unpersuasive because the invitation to bid required disposal at the Lehigh County site for all specifications, including those which required nighttime collection in all parts of the City. The contract stated:

\*86 Refuse collected by the Contractor to be deposited in the proposed Lehigh County Authority Disposal Center in Upper Saucon Township. Contractor's attention is called to night-time disposal restrictions at the solid waste center. Tentatively no vehicle will unload solid waste until 7:30 A.M. or after 7:00 P.M.

(TPP 453.B, § 3.4(b) at 7 of 18.) In particular, the specifications stated that "[r]egardless of disposal time restrictions, collection in all parts of the City must be completed by 8:00 A.M." (TPP 453.B, Proposals B, D, and F at 10-12 of 18.) Thus, insofar as the contract contemplated nighttime collection throughout the City, it also anticipated that the hauler might be required to dispose of the garbage at a site that was closed at night.

Additionally, the court is not convinced that the Dorney Road landfill was the only site available for nighttime disposal. For instance, the Heleva site may have been available for SCA to dispose of Allentown's waste at night. More significantly, SCA's contracts with Allentown also listed the Pottstown site, which SCA owned. SCA claims that the Pottstown site was not open at night. However, this is a limitation that SCA imposed upon itself, pursuant to a "good neighbor" policy. This policy, while commendable, constituted a business decision that was entirely within SCA's control.

The court is convinced that SCA's participation in the site selection process under its contracts with the City of Allentown was both active and substantial. The City suggested the Dorney Road landfill as an option. However, the City by no means foisted the decision upon SCA. SCA was obligated to compile a list of suitable disposal sites, and it did so. The City approved of SCA's choices. To the extent that the City gave SCA this responsibility, it relied on the transporter's expertise in waste disposal. That SCA also relied on the City's suggestions and cooperation did not relieve it of its duty to conduct an independent investigation of possible disposal sites. Thus, SCA is liable under § 107(a)(4) for its

participation in the joint decisionmaking process.

### (3) Allocation Between Allentown and SCA

CERCLA establishes no hierarchy among the four categories of liable parties under § 107(a). Each can be jointly and severally liable in a cost recovery action. *Alcan*, 964 F.2d at 258-59. Allocation is a fact-sensitive determination that must be made on a case-by-case basis, taking into account all relevant equitable considerations. *Smith Land & Improvement Corp. v. Celotex Corp.*, 851 F.2d 86, 90 (3d Cir. 1988). Courts that have considered allocating responsibility between the transporter and generator or arranger for the same waste have applied equitable factors in accordance with § 113(f)(1). *See, e.g., Tippins, Inc. v. USX Corp.*, No. C.A. 92-1799, 1993 WL 739659 (D.N.J. 1993).

The court's assessment of equitable factors will rest on the totality of the circumstances. *See Ensco*, 969 F.2d at 509. In addition to the Gore factors, courts in this circuit have looked to the financial resources of the parties involved, their knowledge of environmental problems at the facility, awareness of environmental risks, financial interests that a party had in the site, efforts by the parties to prevent harm to the public, and the parties' good faith attempts to reach a settlement. *Tippins*, 1993 WL 739659 at \*5. In the context of apportioning liability between an arranger and the transporter of the same waste stream, an important equitable factor is the parties' relative degree of involvement in the decision to dispose the waste at the Site. However, this consideration is difficult to quantify insofar as the decision making process is a joint one.

\*87 In *Tippins*, the district court allocated 50% to USX, the generator, 25% to Tippins, the arranger, and 25% to Petroclean, the transporter. Thus, Third-Party Plaintiffs submit, this court should allocate a smaller proportion of Allentown's waste to the City because of its role as a "mere" arranger for its residents' waste. However, the court agrees with SCA that CERCLA warrants no meaningful distinction between the generator and arranger as such. Interestingly, Third-Party Plaintiffs agree that "pure status" distinctions have no support in CERCLA insofar as the transporter is concerned. On a similar note, the court finds unpersuasive Third-Party Plaintiffs' argument that Allentown should be

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treated differently because it provided waste disposal to its residents as a service rather than for profit. Allentown's waste disposal service to its residents certainly was not gratuitous, but was paid for with the residents' tax dollars.

The contracts between Allentown and SCA provided that each had the power to exclude the Dorney Road landfill as a disposal site. The contract placed the onus on SCA to select an appropriate landfill. However, the evidence shows that SCA in fact relied partially on Allentown's suggestion of the Site in its decision to haul the City's waste there. Although the City's suggestion of the Site does not relieve SCA of its obligation to make an informed choice, it certainly influenced that choice.

The instant case is less compelling than was *Tippins*, at least in terms of the City's reliance on SCA's special expertise. To be sure, SCA is a sophisticated waste hauling company. However, Allentown was not completely unsophisticated in matters of garbage. The City initially required disposal at a site of its choosing. Harry Bisco, the City's Director of Public Works, had visited the Dorney Road landfill a number of times during the period when the City's previous hauler was disposing of the City's waste there. Just as SCA was obliged to make an informed choice, the City's retention of the right to accept or reject SCA's proposals, as well as the City's prior relationship with the Site, implied that the City knew what it wanted and was aware of the conditions at the Site.

The fact that the contracts were for the transportation and disposal of residential waste, as opposed to RCRA-listed hazardous waste, merits some discussion. This undercuts somewhat the City's reliance on SCA's special expertise, as the disposal of MSW carried with it no extraordinary requirements during the relevant time period. On the other hand, the fact that SCA controlled the largest MSW stream in the area presumably would have made unearthing more than just one landfill considerably facile. The waste itself presented no significant disposal problem, and its sheer volume rendered it a considerable source of income to the landfill at which it was disposed.

In terms of the parties' relative financial interest in the Site, the record is devoid of any indication that either SCA or Allentown had any financial interest

in the Dorney Road landfill as opposed to any other landfill in the area.

\*88 Under the circumstances of this case, Allentown and SCA are equally responsible for that portion of the City's waste that SCA hauled to the Site. As the Court of Appeals suggested in *Tippins*, the allocation of liability between the generator or arranger and the transporter of hazardous substances is "straightforward." 37 F.3d at 89-90. Absent any conspicuous inequity to either party, each should bear a substantial share of the liability.

The court's review of the process by which Allentown and SCA selected the Site reveals no clear basis upon which to allocate the lion's share of responsibility to either party. Accordingly, SCA will be held liable for 50% of the past and future response costs attributable to the waste it hauled to the Site under its disposal contracts with Allentown.

#### (4) SCA's Commercial Accounts

SCA is the only party to this case responsible for the 587.4 tons of waste that it hauled to the Site under its contracts with commercial customers. Therefore, SCA will be allocated 100% of the costs attributable to this waste.

#### B. SAUCONY II'S LIABILITY AS SUCCESSOR TO SAUCONY I

Because Saucony II arranged for the disposal of hazardous substances at the Site from its Macungie plant and its Kutztown plant after October 24, 1968, it is a responsible party under § 107(a)(3). See 42 U.S.C. § 9607(a)(3). Third-Party Plaintiffs argue that Saucony II should also bear the proportionate costs attributable to Saucony I's use of the Site prior to the asset purchase. FN30

Successor liability in CERCLA cases generally have centered on whether a corporation that acquires the assets of another corporation thereby incurs CERCLA liability arising from the selling corporation's past waste disposal practices, even though the purchasing corporation is otherwise unconnected to the contamination. In this case, however, Saucony II's status as a responsible party under § 107(a) has already been established. The only question that remains is whether the court should assign Saucony I's share entirely to Saucony

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II or whether that share should be allocated among all liable parties. Thus, the court must determine the size of Saucony II's § 113(f) equitable share.

After the asset purchase was completed, Saucony II essentially conducted "business as usual" at the Kutztown plant. The plant continued to manufacture Saucony brand athletic shoes. No new product lines were introduced for at least six months. The plant continued to use the same manufacturing processes and raw materials. Saucony II used the same suppliers as Saucony I, and sold to the same customers. There were no significant personnel changes, with the exception of Russell Thies. Saucony II continued to manufacture Saucony brand shoes as long as the Kutztown plant remained open.

Ordinarily, a corporation that purchases only the assets of another corporation does not thereby assume responsibility for the selling corporation's liabilities. *Smith Land & Improvement Corp. v. Celotex Corp.*, 851 F.2d 86 (3d Cir. 1988), *cert. denied*, 488 U.S. 1029, 109 S. Ct. 837, 102 L.Ed. 2d 969 (1989). This rule serves to protect corporate successors from unknown and contingent liabilities of their predecessors. *Stutzman v. Syncro Machine Co., Inc.*, No. CIV.A. 88-9673, 1991 WL 66796, \*2 (E.D. Pa. 1991). Liability may attach, however, in four circumstances:

\*89 (1) The purchasing corporation expressly or impliedly agrees to assume the liability;  
 (2) The transaction amounts to a de facto consolidation or merger;  
 (3) The purchasing corporation is merely a continuation of the selling corporation;  
 (4) The transaction was fraudulently entered into in order to escape liability.

*Louisiana-Pacific Corp. v. Asarco, Inc.*, 909 F.2d 1260, 1263 (9th Cir. 1990); *see United States v. Carolina Transformer Co.*, 978 F.2d 833, 838 (4th Cir. 1992); 15 *Fletcher Cyclopedia of the Law of Private Corporations* § 7122 (rev'd ed. 1990). Additionally, some courts have recognized the "substantial continuity" (or "continuity of enterprise") theory, which expands the scope of the "mere continuation" exception. *See, e.g., United States v. Mexico Feed and Seed Co.*, 980 F.2d 478, 488-89 (8th Cir. 1992); *Carolina Transformer*, 978 F.2d at 838; *United States v. Pierce*, Nos. C.A. 83-1623, 91-0039, 92-0562, 1995 WL 356017 (N.D.N.Y. Feb. 21, 1995).

Third-Party Plaintiffs urge the court to find that Saucony II is liable as a successor to Saucony I by virtue of a de facto merger or, alternatively, under the "substantial continuity" theory.FN31 Third-Party Plaintiffs argue in the alternative, if the court declines to hold Saucony II liable under the de facto merger and substantial continuity theories, that the court should allocate Saucony I's share of liability to Saucony II as an equitable matter. The court will address these arguments seriatim.

#### (1) De Facto Merger

Third-Party Plaintiffs argue that Saucony II's asset purchase constituted a de facto merger according to traditional successor liability rules. The factors to be considered in determining whether an asset purchase amounts to a de facto merger are as follows:

(1) a continuation of the enterprise of the seller corporation, so that there is a continuity of management, personnel, physical location, assets and general business operations;  
 (2) a continuity of shareholders which results from the purchasing corporation paying for the acquired assets with shares of its own stock, this stock ultimately coming to be held by the shareholders of the seller corporation so that they become a constituent part of the purchasing corporation;  
 (3) the seller corporation ceases its ordinary business operation, liquidates and dissolves as soon as legally and practically possible; and  
 (4) the purchasing corporation assumes those obligations of the seller ordinarily necessary for the uninterrupted continuation of normal business operations of the seller corporation.

*Philadelphia Elec. Co. v. Hercules, Inc.*, 762 F.2d 303, 310 (3d Cir.), *cert. denied*, 474 U.S. 980, 106 S. Ct. 384, 88 L.Ed. 2d 337 (1985) (quoting *Philadelphia Elec. Co. v. Hercules, Inc.*, 587 F. Supp. 144, 151-52 (E.D. Pa. 1984)).

Saucony II continued to run the Kutztown plant in much the same manner as Saucony I. Therefore, the first part of the de facto merger test is satisfied. Saucony I was dissolved on October 14, 1969, less than one year after the asset purchase. (TPP 903(b), tab 17.) This meets the third element of the test. The fourth element also appears to be satisfied, as Saucony II assumed the liabilities enumerated under Paragraph 11 of the Agreement. However, there was no continuity of ownership between Saucony I and



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Saucony II. Saucony II paid cash for Saucony I's assets, and did not purchase any of Saucony I's stock. Additionally, no Saucony I shareholders acquired ownership interest in Saucony II or in Hyde pursuant to the asset purchase. (TPP 903(b))

\*90 Third-Party Plaintiffs assert that every factor need not be present for a transaction to amount to a de facto merger. Indeed, many courts have found de facto mergers where not every factor was satisfied. See, e.g., *McDarren v. Marvel Entertainment Group, Inc.*, No. CIV.A. 94-0910, 1995 WL 214482, \*7-\*8 (S.D.N.Y. April 11, 1995) (applying New York law, de facto merger occurred where all factors present except dissolution of the selling corporation). However, "the transfer of stock is a key element in finding a de facto merger because it represents a continuity of ownership." *Tracey v. Winchester Repeating Arms Co.*, 745 F. Supp. 1099, 1110 n.18 (E.D. Pa. 1990), *aff'd without op.* 928 F.2d 397 (3d Cir. 1991).FN32 See also *Gehin-Scott v. Newson, Inc.*, No. CIV.A. 93-0321, 1994 WL 2530, \*3 (E.D. Pa. 1994); *Stutzman*, 1991 WL 66796 at \*4.

Third-Party Plaintiffs rely on *HRW Systems, Inc. v. Washington Gas Light Co.*, 823 F. Supp. 318 (D. Md. 1993), in which the court stated that "[b]ecause the theory of de facto merger is equitable in nature, no one of these factors alone is sufficient to establish successor liability, nor does the absence of just one of these factors disqualify a finding of successor liability." 823 F. Supp. at 334. However, the court also noted that the most critical element of the test is continuity of ownership. *Id.* at 334 n.18. The facts of the case did not require the court to analyze the issue further, as "there was continuity of ownership in this case, and the requirements of this portion of the test, ... the most critical of the four, are met." *Id.* at 335 (citing *Crawford Harbor Assoc. v. Blake Const. Co., Inc.*, 661 F. Supp. 880 (E.D. Va. 1987)).

Third-Party Plaintiffs also cite *In re Acushnet River & New Bedford Harbor*, 712 F. Supp. 1010 (D. Mass. 1989), in which the court stated that "[n]o one of these factors is either necessary or sufficient to establish a de facto merger." 712 F. Supp. at 1015. However, the court acknowledged that continuity of shareholders is "one of the key requirements of the de facto merger doctrine." *Id.* at 1016 (citation omitted). The court went on to find

that continuity of ownership was present because the selling corporation's shareholders received stock from the purchasing corporation's parent company. *Id.* at 1016-17.

Accordingly, because there was no continuity of ownership, the court concludes that Saucony II is not liable for Saucony I's costs under a de facto merger theory.

## (2) Substantial Continuity

This court has found application of the substantial continuity theory to be appropriate only in circumstances where strict adherence to traditional successor liability rules would frustrate CERCLA's remedial goals. *Atlas Minerals*, 824 F. Supp. at 50-51; *United States v. Atlas Minerals and Chemicals, Inc.*, No. CIV.A. 91-5118, 1993 WL 482952, \*3-\*4 (E.D. Pa. 1993) (Barclay Contracting).FN33 A number of factors are relevant to the inquiry, including:

- \*91 (1) retention of the same employees;
- (2) retention of the same supervisory personnel;
- (3) retention of the same production facilities in the same location;
- (4) production of the same product;
- (5) retention of the same name;
- (6) continuity of assets;
- (7) continuity of general business operations; and
- (8) whether the successor holds itself out as the continuation of the previous enterprise.

*Carolina Transformer*, 978 F.2d at 838. "If the transfer to the new corporation was part of an effort to continue the business of the former corporation yet avoid its existing or potential state or federal environmental liability, of course that should be considered also." *Id.*

Most courts that have contemplated successor liability under the substantial continuity theory in the CERCLA context have considered whether the successor knew or should have known of potential CERCLA liability. "[T]he imposition of successor liability under the 'substantial continuation' test is justified by a showing that in substance, if not in form, the successor is a responsible party." *Mexico Feed*, 980 F.2d at 488.

For instance, in *Carolina Transformer*, the court considered it noteworthy that the transfer "was an

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integral part of an apparent attempt by those controlling FayTranCo [the successor] and Carolina Transformer [the original PRP] to distance themselves, both physically and legally, from the PCB-contaminated Middle Road site." 978 F.2d at 841.

In *Asarco*, the court held the substantial continuity theory to be inapplicable to the facts of the case. This was partially because the putative successor had no actual notice of potential liability, as its predecessor had not yet been identified as a PRP at the time of the asset purchase. 909 F.2d at 1265. Likewise, in *Mexico Feed*, the court found the theory to be inapplicable in the absence of actual notice of potential liability. 980 F.2d at 489.

In *Atlantic Richfield Co. v. Blosenski*, 847 F. Supp. 1261 (E.D. Pa. 1994), Judge Giles noted that the debate over the exact contours of the test was academic because "[the successor] did have knowledge of the potential CERCLA liability of Blosenski [the predecessor]." 847 F. Supp. at 1287. Although he disagreed with *Atlas Minerals* insofar as it "limit[ed] the application of the substantial continuity test to occasions when the purchaser has knowledge or actual notice of the seller's CERCLA liability, Judge Giles added that it might be proper to reserve substantial continuity successor liability for a purchaser who should have known after reasonable investigation of the seller's potential liability." *Blosenski*, 847 F. Supp. at 1287 n.26.

Saucony II's purchase of Saucony I's assets occurred long before CERCLA was enacted. Thus, it presents quite a different scenario than cases such as *Carolina Transformer* and *Blosenski*. Moreover, the record is devoid of any indicia that Saucony II knew or should have known that Saucony I's waste disposal practices portended environmental liability. Although Saucony I's waste, like Saucony II's, contained some hazardous substances, it was a far cry from RCRA or RCRA-like "hazardous waste." Also, the asset purchase was an arms-length transaction between competitors, not the "cozy deal" that took place between Carolina Transformer and its successor.

\*92 Accordingly, although each of the eight criteria set out in *Carolina Transformer* is satisfied, the court finds that more is required. The extra component of knowledge, notice, willful blindness,

or collusion, which justifies application of the substantial continuity exception, is absent here. Therefore, the court declines to find Saucony II liable for Saucony I's past disposal practice under the substantial continuity theory of successor liability.

### (3) Equitable Apportionment

Third-Party Plaintiffs alternatively argue that it is simply "fair" for Saucony II to bear the costs attributable to Saucony I, as opposed to allocating Saucony I's share pro rata among all liable parties. The court agrees.

The purpose of analyzing the issue of successor liability in a CERCLA action is to determine whether an alleged successor corporation should be considered a "corporation" as the term appears in § 107(a) and thus be held jointly and severally liable for response costs. *Mexico Feed*, 980 F.2d at 486. Saucony II's § 107(a) liability has already been established. By finding that Saucony II does not succeed to Saucony I's environmental liability according to successor liability ideology, the court has determined only that Saucony II may not properly be held jointly and severally liable under § 107(a) in Saucony I's stead. The court now turns to the issue of whether, applying equitable considerations in accordance with § 113(f), Saucony II ought to bear Saucony I's share in the contribution phase.

Although the asset purchase did not satisfy any successor liability test, the court has no trouble finding that Saucony II should bear the portion of costs attributable to Saucony I's disposal of waste at the Site for purposes of allocation. The fact that Saucony II continued to dispose of waste from the Kutztown plant in exactly the same manner that Saucony I had before the asset purchase is compelling. Saucony II essentially placed itself into Saucony I's shoes, so to speak, by continuing all aspects of Saucony I's prior practices.

The alternative to allotting Saucony I's share to Saucony II is to treat Saucony I's share as an orphan share and thus apportion it among all liable parties. However, no liable party other than Saucony II had any nexus to the Kutztown plant. Considering all circumstances, assigning Saucony I's share to Saucony II achieves the most equitable allocation of

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this little share. Accordingly, the court will hold Saucony II responsible for the 762.35 tons of plant trash that Saucony I disposed of at the Site before October 24, 1968.

### C. APPLICATION OF THE PETROLEUM EXCLUSION TO ATLAS MINERALS AND CHEMICALS, INC.

Atlas argues that the asphalt condensate produced at the Mertztown facility does not come within the purview of CERCLA's definition of hazardous substances because it falls within the "petroleum exclusion," 42 U.S.C. § 9601(14). CERCLA defines "hazardous substances" very broadly. However, that term "does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance." 42 U.S.C. § 9601(14) (the "petroleum exclusion").

**\*93** Courts have defined "petroleum" as:

An oily flammable bituminous liquid that is essentially a compound mixture of hydrocarbons of different types with small amounts of other substances (as oxygen compound, sulfur compounds, nitrogen compounds, resinous and asphaltic components, and metallic compounds) and that is subjected to various refining processes (a fractional distillation, cracking, catalytic reforming, hydroforming, alkylation polymerization) for producing useful products (as gasoline naphtha, kerosene, fuel oils, lubricants, waxes, asphalt, coke and chemicals).

*Cose v. Getty Oil Co.*, 4 F.3d 700, 705 (9th Cir. 1993) (quoting *Willshire Westwood Ass'n v. Atlantic Richfield*, 881 F.2d 801, 803 (9th Cir. 1989)). Moreover, a crude oil "fraction" has been defined as "one of several portions (as of a distillate or precipitate) separable by fractionation and consisting either of mixtures or pure chemical compounds." *Id.* Alternatively, "fraction" has been defined as "usable petroleum products which are derived by 'cracking' or distilling crude oil." *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 186 (S.D.N.Y. 1991) ("*Exxon II*") (citing *Hawley's Condensed Chemical Dictionary* 540, 892 (11th ed. 1987)); *United States v. Western Processing Co.*, 761 F. Supp. 713, 719 (W.D. Wash. 1991).

The court has found that the petroleum asphalt

feedstock used at the Mertztown facility during the relevant time period was a petroleum fraction. The asphalt condensate that was disposed of at the Site resulted from the blowing of steam and heat through the feedstock. No new substances were added to the feedstock, and no chemical changes occurred in the blowing process. Therefore, the court concludes that the asphalt condensate falls within the petroleum exclusion. *See Exxon II*, 766 F. Supp. at 186 (asphalt is one of the most important petroleum fractions); *Western Processing*, 761 F. Supp. at 719 (asphalt is a petroleum fraction).

This conclusion is buttressed by the fact that the asphalt condensate has a viable commercial use. *See Exxon II*, 766 F. Supp. at 186 (to constitute a fraction, the product must be useful). In fact, the asphalt condensate currently fires the steam generator at the Mertztown facility. *Cf. Cose*, 4 F.3d at 705 (where substance has no use and is "simply discarded waste," it is not a fraction).

Third-Party Defendants contend that the presence of PNAs in the asphalt condensate requires this court to find the petroleum exclusion inapplicable. However, in *Alcan*, the Court of Appeals for the Third Circuit held that the petroleum exclusion applies to "oil that naturally contains low levels of hazardous substances." 964 F.2d at 266. *See also United States v. Alcan Aluminum Corp.*, 755 F. Supp. 531, 539 (N.D.N.Y. 1991) ("what does come within the ambit of the 'petroleum exclusion' is the oil or oil fraction which naturally contains the hazardous substance(s) unless the fraction itself is specifically listed as a hazardous substance"). No credible evidence has been introduced to convince the court that the concentration of PNAs increased during the asphalt blowing process. *Cf. Alcan*, 964 F.2d at 266 (petroleum exclusion does not apply to "oil to which hazardous substances have been added through use") (citing 50 Fed. Reg. 13,460 (1985) ("EPA does not consider materials such as waste oil to which listed CERCLA substances have been added to be within the petroleum exclusion")).FN34 Accordingly, the court concludes that the asphalt condensate produced at the Mertztown facility is excluded from CERCLA's definition of hazardous substances.

**\*94** Because Atlas has proven by a preponderance of the evidence that the asphalt condensate falls within the petroleum exclusion, the court has adopted the Third-Party Plaintiffs' proposed findings regarding

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the waste strength scores to be assigned to all of the waste that Atlas disposed of at the Site. Although the court is somewhat troubled by exclusion of the asphalt condensate from CERCLA's definition of hazardous substances under these circumstances, this finding does not have a serious impact on cost allocation in this case. The court found that Atlas disposed of 53.38 tons of asphalt condensate at the Site. If the petroleum exclusion did not apply, this waste stream would have been scored separately and would have received an elevated score. Additionally, the 2.18 tons of sulfur scrubber sludge would have received a separate score. Everything else would have been considered "plant trash" and would have received a score lower than '12'. Thus, the court's adoption of Third-Party Plaintiffs' proposed findings does not significantly assist Atlas in the contribution phase.

#### D. AMANA/CALORIC/RAYTHEON

The court has ruled that Amana is not liable to Third-Party Defendants on their CERCLA § 113 counterclaims. *United States v. Atlas Minerals and Chemicals, Inc.*, No. 91-5118 (E.D. Pa. Oct. 20, 1994) (order). However, Amana has incurred response costs in connection with remediation at the Site, in compliance with EPA's unilateral orders. Accordingly, the liable Third-Party Defendants are jointly and severally liable to Amana for the response costs it has incurred. 42 U.S.C. § 9607(a).

The court also has ruled that Third-Party Plaintiffs' aggregate recovery from the Third-Party Defendants will be reduced by the share attributable to Caloric's Topton facility as if Raytheon had been joined as a fourth party defendant and had settled. *United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. July 20, 1994) (order).

### III. ALLOCATION

Ultimately, the allocation of response costs in this case should consider each party's relative responsibility for (1) the need for remediation at the Site, (2) the selection of the particular remedy, and (3) the cost of the selected remedy. It is inescapable that allocation will be difficult in this case. To begin with, this is an abstruse area of law. Also, the court's findings regarding the parties' volumetric contributions are only approximate because of gaps in the evidence attributable mostly to the passage of

time. Such uncertainty makes it somewhat confounding for the court to devise a principled scheme for allocating costs. Therefore, any method the court employs to establish the parties' shares will be reasonably fair at best, and imprecise at worst.

The parties have challenged this court to come up with a formula that will be applicable to future CERCLA contribution actions. However, the allocation of costs must be decided based on equitable factors that the court deems appropriate in light of the facts of the individual case. Section 113(f)(1) provides courts with broad discretion in making allocation decisions; the language contained in that section does not constitute an invitation to courts to create allocation "rules." Another trial court allocating response costs connected with cleaning up another site may consider a completely different set of equitable factors to be relevant to that site. Thus, any method this court employs in this case will likely have limited precedential value.

#### A. THE PARTIES' PROFFERED PLANS

\*95 Each side has proposed a cost allocation formula that professes to allocate costs in an equitable manner. Each side presented expert testimony in support of its model, and each side has spent considerable energy extolling its own method and denigrating its opponent's.FN35

Each side's proposed model unavoidably embodies the parties' interests. Obviously, each side will advocate a model that is designed to minimize its own exposure. However, both sides have provided valuable information and have made arguments that will assist the court in reaching a fair result in this case. The court will examine the proposed allocation schemes in turn.

##### (1) Third-Party Defendants' Model

Third-Party Defendants seek an allocation of costs that follows the so-called "cost causation" approach, which purports to require each party to bear the costs that can be traced to it. In developing their approach, Third-Party Defendants' experts opined that the disposal of hazardous wasteFN36 contributed to the harm at the Site in three ways: (1) hazardous waste caused the Site to be listed on the NPL; (2) hazardous waste prompted EPA to



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undertake the 1986 emergency removal action; and (3) hazardous waste caused the selection of an impermeable multi-layer cap as the permanent remedy for the Site. They concluded that, but for the presence of hazardous waste, the Site would have been closed with a two foot soil cover instead of the multi-layer cap that EPA has ordered. Third-Party Defendants' expert, Dr. Robert J. Schoenberger ("Schoenberger"), estimated the cost of closing the Site with a two foot soil cover to be \$2,393,724, approximately 10% of the actual anticipated cost of remediation. (TPD 992)

Application of the cost causation formula "results in a ratio between the cost of closing a hazardous waste co-disposal landfill, on a dollar per acre basis, and the cost of closing a municipal solid waste landfill, on a dollar per acre basis." (Saucony's Post-trial, Pre-argument Brief at 26.) Under Third-Party Defendants' approach, each party is classified either as a hazardous waste generator or a nonhazardous waste generator. If a party disposed of any amount of hazardous waste, that party is classified as a hazardous waste generator for all purposes. The hazardous class bears 90% of the costs, while the nonhazardous class bears 10% of the total costs. Allocation within each of the two classes is strictly volumetric. Thus, once a party is placed within a class, it is assigned its straight volumetric share of the class's aggregate percentage share.

(a) "But For Hazardous Waste"

The keystone of Third-Party Defendants' cost causation model is the assumption that, but for the presence of industrial hazardous waste, the Site would have closed with a two foot soil cap pursuant to the regulations that were in effect at the time the Site ceased landfilling activities. Third-Party Defendants claim that, but for the presence of industrial hazardous wastes, the Site would have been nothing more than a municipal solid waste dump, and would not have attracted EPA's attention. Instead, Third-Party Defendants contend that DER would have stepped in and promptly closed the Site with a two-foot soil cover as was required by the 1977 regulations.

\*96 The court agrees that if EPA had not stepped in, DER presumably would have pursued enforcement activities with regards to the Site's closure. Third-Party Defendants correctly argue that it generally

should be presumed that public officials will perform their duties.FN37 In this case, the record is particularly suited to accommodating this presumption. DER ordered Oswald to close the Site in 1978 after monitoring it for some years. Therefore, it is not a stretch to presume that DER would have followed through and required the Site to close in accordance with the regulations.FN38

In August 1977, DER ordered Oswald to cease accepting waste by January 1, 1979 and to submit a schedule for the Site's closure. (TPD 979) Oswald partially complied with the order and stopped accepting waste at the Site December 31, 1978. Pennsylvania's Solid Waste Management Regulations that were in effect at the time required "[a] final layer of cover material, compacted to a minimum uniform depth of two feet," plus surface vegetation for erosion control. 25 Pa. Code §§ 75.24(c)(2)(xxi) & 75.26(p) (1977). As the court noted above, Third-Party Defendants argue that if the Site had closed under these regulations, the cost would have been approximately \$2,393,724. (TPD 992)

Third-Party Defendants additionally argue that the 1986 emergency removal action was taken in response to the presence of hazardous waste.FN39 They point out that the retention ponds constructed during the emergency removal action increased saturation at the Site and created a bathtub effect, and thus contributed to the need for an impermeable cap. Finally, Third-Party Defendants argue that the presence of hazardous waste resulted in the Pennsylvania hazardous waste regulations being disposal landfill at which large quantities of MSW were deposited along with industrial hazardous waste. SCA, in particular, could not have been unaware of conditions at the Site. The court has heard testimony that bright green (aqua, almost) electroplating sludge was spread on top of the other waste to dry, and thick black liquid and taffy-like paint waste oozed from barrels that were strewn about the dump. The trucks that transported nonhazardous waste to the Site drove over roads paved with battery casings to get there. Thus, the court refuses to base its allocation on an assumption that ignores the fact that every party now before the court contributed to the growth of a co-disposal facility.

Third-Party Defendants have argued in the

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alternative that the Site may have closed, even after the 1988 regulations became effective, with a two foot soil cap had there been no co-disposal. They have presented evidence purporting to show that several municipal waste dumps have closed in Pennsylvania with permeable caps since the 1988 regulations became effective. The court finds these allegations irrelevant to the instant case. As the court stated above, this is a co-disposal landfill that EPA ordered closed with a multi-layer cap as the permanent remedy. Even assuming that a landfill containing purely municipal waste would have closed with a permeable cap (either before or after 1988), that is simply not what happened here.

#### (b) Stand Alone Costs

**\*97** The cost causation model also fails to acknowledge that the cost of the cap is a function of volume. It measures only the difference between the established cost of closing a municipal open dump, and the actual cost of closing this co-disposal Site. It does not attempt to estimate the cost of closing this Site, assuming the absence of the large volume of municipal waste. In essence, Third-Party Defendants' approach accounts only for half of the equation when determining the aggregate percentage that each class will bear.

#### (c) Waste Classification

Third-Party Defendants' classification of the parties according to the waste they disposed of is flawed in two significant respects. First, the court rejects the notion of defining hazardous waste in accordance with RCRA for purposes of allocating cleanup costs under CERCLA § 113(f)(1). Second, the court disagrees with Third-Party Defendants' assertion that *all* waste streams disposed of by hazardous waste generators should be treated as "hazardous." Instead, in light of CERCLA's broad definition of hazardous substances, the varying degrees of toxicity among the different waste streams must be accounted for.

##### (i) RCRA/CERCLA

CERCLA's definition of "hazardous substances" includes not only those wastes defined as "hazardous waste" under RCRA but also a medley of other substances. *See* 42 U.S.C. § 9601(14); 40 C.F.R. § 302.4. CERCLA broadly defines "hazardous

substance" as any substance that is regulated under virtually any federal environmental statute. *See* 42 U.S.C. § 9601(14). Regulations promulgated under CERCLA list over 700 hazardous substances. 40 C.F.R. § 302, Table 302.4.

Third-Party Plaintiffs aptly remark that although municipal waste, which typically contains many hazardous substances, is excluded from the RCRA's hazardous waste provision, it is not exempt from CERCLA. Courts have imposed CERCLA liability based on disposal of household waste, despite arguments that MSW should be exempt:

RCRA is preventative; CERCLA is curative. It does not follow that because the environmental risk posed by household waste is deemed insufficient to justify the most stringent regulations governing its day-to-day handling that the environmental harm caused when that risk is realized is insufficient to require holding liable those responsible for that harm.

*B.F. Goodrich Co. v. Murtha*, 958 F.2d 1192, 1202 (2d Cir. 1992). *See also New Jersey Dept. of Env'tl. Protection & Energy v. Gloucester Env'tl. Management Services, Inc.*, 821 F. Supp. 999 (D.N.J. 1993).

To draw a bright line between hazardous and nonhazardous waste based on RCRA's definition for purposes of allocation ignores the fact that CERCLA casts a much wider net than does RCRA. For purposes of allocating costs in this case, it is more acceptable to recognize that degrees of toxicity exist along a continuum within the broad category of CERCLA hazardous substances.

##### (ii) Segregation of Waste Streams

Third-Party Defendants' model characterizes parties, not waste streams, as either hazardous or nonhazardous. Thus, if a party disposed of several different types of waste, and at least one waste stream is considered to be "hazardous" under Third-Party Defendants' conception of the term, the party lands in the hazardous group and is allocated its portion of 90% of the costs based on its total volume of both hazardous and nonhazardous waste.

**\*98** Third-Party Defendants' justification of this seemingly harsh approach is that a hazardous waste generator should not be rewarded for waste segregation when, in actuality, that party did not

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segregate its waste but instead sent all of its waste to the same landfill where it was commingled. Third-Party Defendants maintain that because these parties did not segregate their plant trash from their hazardous waste from the outset, they do not deserve to reap the benefits of waste stream segregation now. Under this scheme, parties that sent hazardous waste to the Site along with nonhazardous waste essentially are punished for commingling their waste.

This argument has some superficial appeal, but nonetheless must be rejected. This court will confine its analysis to an evaluation of objective factors leading to the Site's remediation and its cost, and therefore declines to consider the parties' culpability regarding their waste disposal practices. Third-Party Defendants acknowledge that "the commingling of municipal-like waste with hazardous waste throughout the Site determined the overall extent of the cap" and thus influenced the cost of remediation. (TPD Post-argument Brief at 37.) However, the court is unconvinced that there should be any meaningful distinction between a party that commingled nonhazardous waste with its own hazardous waste, and a party that commingled nonhazardous waste with hazardous waste generated by others. The court is not particularly concerned with the parties' level of fastidiousness in their waste disposal practices during the relevant time period. That being said, the court finds that no support exists for failing to isolate the various waste streams to evaluate the impact that each one had on the incurrence of response costs at the Site.

Accordingly, the court rejects Third-Party Defendants' bright line distinctions between the parties and their various waste streams. Additionally, the court recognizes that, in light of CERCLA's broad definition of hazardous substances, it is proper to distinguish the many different types of waste that the parties disposed of at the Site, based on the waste streams' varying degrees of toxicity. Because even *de minimis* amounts of hazardous substances trigger liability, it is important to look at hazardous substances on a continuum. It is not difficult to understand that some substances present a greater threat than others.

#### (2) Third-Party Plaintiffs' Model

Third-Party Plaintiffs have introduced a model

developed by B. Douglas Bernheim ("Bernheim"), an economist. Bernheim's formula allocates a portion of response costs to each waste stream in proportion to Bernheim's estimation of the marginal cost imposed by the disposal of that waste stream.

\*99 Third-Party Plaintiffs claim that 40.3% of the response costs at the Site are driven by volume. Thus, Bernheim opined that the court should allocate 40.3% of the response costs based on volume, and 59.7% based on "waste strength." FN41 Bernheim's formula incorporates this estimate in a weighting factor, which is defined as:  $1/(1 + .403)$ , or 0.713. FN42 Bernheim's formula assigns a share of costs to each waste stream as follows:

$$[(\text{weighting factor}) \times (\text{waste strength weighted share})]$$

$$+ [(1 - \text{weighting factor}) \times (\text{volumetric share})]$$

The first part of the equation represents Bernheim's allocation of the portion of costs that supposedly are driven by waste strength. The waste strength weighted share is calculated simply by multiplying volume by waste strength. The second part of the equation allocates the remaining costs by calculating each waste stream's straight volumetric share. The sum of the two parts constitutes the total share allocated to each waste stream.

In developing his allocation method, Bernheim sought to establish a rule that would create incentives for proper waste disposal in the future. In his expert report, Bernheim stated:

In developing principles and formulas for cost allocation, I have been guided by two primary concerns. First, the cost allocation principles should, if applied generally, provide appropriate incentives for waste disposal on a forward-looking basis. Second, application of the cost allocation formula should not create onerous or otherwise unreasonable information requirements.

(TPP 189 at 4.) By applying existing economic theory, it is therefore possible to derive allocation principles that would establish appropriate incentives for waste disposal on a forward-looking basis. This is the strategy that I adopt in this report.

(TPP 189 at 6.)

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Third-Party Defendants attack Bernheim's model on several fronts. First, they argue that the model seeks to achieve goals that are irrelevant to this case and to CERCLA. Second, Third-Party Defendants argue that Bernheim's model is insensitive to the impact that toxicity actually had on response costs. Third-Party Defendants' third argument is that the Bernheim model ignores reality by assessing toxicity according to each waste stream's contribution to the *ex ante* likelihood that remediation will be required. Third-Party Defendants also contend that Third-Party Plaintiffs' waste strength scoring system must be rejected.

The court will reject Third-Party Plaintiffs' model. First, for purposes of this case, the premise that the allocation formula should create proper incentives is faulty. Second, Third-Party Plaintiffs' formula is unresponsive to the impact that toxicity had on the fact that remediation was required at the Site and, to a lesser extent, the selection of a multi-layer cap as the permanent remedy.

#### (a) Incentives

Bernheim's primary goal in creating his cost allocation model was to eliminate externalities that result from improper waste disposal practices. However, the creation of proper incentives for future waste disposal is not relevant to cost allocation in a retrospective case. In this regard, Third-Party Plaintiffs' model misses the mark.

\*100 The court is cognizant that in many cases, cost allocation is likely to create certain incentives. Indeed, one of the objectives of CERCLA's passage was to supplement RCRA's prospective regulation scheme and "to encourage maximum care and responsibility in the handling of hazardous waste ...." *Chemical Waste Mgt. v. Armstrong World Industries*, 669 F. Supp. 1285, 1290 n.6 (E.D. Pa. 1987). CERCLA advances this goal by imposing joint and several liability on parties that dispose of even *de minimis* quantities of hazardous substances. See *Alcan*, 964 F.2d at 259-60 (CERCLA's definition of hazardous substances imposes no quantitative requirement). However, it does not follow that the court should attempt to create proper incentives when deciding how to allocate costs in a particular case.

CERCLA is essentially a remedial statute. Thus, this

court need not concern itself with crafting an allocation rule that will create perfect incentives. FN43 Section 113(f) provides a vehicle by which a court may achieve an equitable result in light of the realities of a particular case. The chance that incentives may be impacted should not influence this court's resolution of cost allocation in this case, where the response costs at issue arise from cleaning up a co-disposal site that closed nearly seventeen years ago.

#### (b) Volume & Toxicity

In this case, Bernheim's model results in an allocation that is almost purely volumetric. (See TPD 1078, attached hereto at Appendix D.) However, Third-Party Plaintiffs respond that the Bernheim formula would not produce this result in all cases. This Site predominately contains large volume, low waste strength waste. Third-Party Plaintiffs argue that applying the Bernheim formula to this Site results in a volumetric allocation only because toxicity actually had a negligible impact on response costs in this case, not because the Bernheim formula insufficiently values toxicity. Third-Party Plaintiffs are correct that the outcome under the Bernheim formula appears volumetric in this case because the volume of low waste strength waste overshadows the relatively small volume of high waste strength waste. However, this reveals an unacceptable flaw in the Bernheim's model. The formula unfairly penalizes volume in this case because it obscures the significant impact that low volume, high waste strength waste actually had on the need for remediation.

The court is somewhat persuaded that, but for the presence of the high waste strength waste, remediation may not have been required at the Site at all, or may have been required but with a less expensive permanent remedy. Both volume and toxicity were significant causes of the incurrence of response costs and the extent of those costs at the Site. However, the court is skeptical that the share of costs attributable to either volume or toxicity can be quantified with any certainty. Volume and toxicity caused response costs at the Site in much different ways. Volume increased the cost of remediation at the Site more or less in a uniform manner once the permanent remedy was chosen. However, the high waste strength waste streams escalated cost in two ways. First, the volume of



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those waste streams proportionately increased the cost of the cap, assuming that a landfill cap is the chosen remedy.FN44 However, the high waste strength waste streams also prompted the Site's listing on the NPL, and may also have influenced the fact that the Site was closed with a multi-layer cap instead of a less expensive remedy. Although the court is skeptical of Third-Party Defendants' position that, but for the presence of "hazardous waste," the Site would have been closed with a two foot soil cap, the argument is not completely without merit. What the court concludes from this argument is that the more hazardous waste streams are responsible for at least half of the response costs that have been incurred and will be incurred in the future.

**\*101** Although it ostensibly attributes only 40.3% of the costs to volume, Bernheim's formula takes volume into account in both parts of the equation and therefore upsets the balance that the formula claims to achieve. A party's total percentage share of the response costs is its volumetric share, plus its weighted volumetric share. The enormous quantity of MSW and MSW-like waste at this Site causes application of the Bernheim formula in this case to yield a volumetric allocation, even on the side of the formula that purports to allocate 59.7% of the costs based on toxicity. Third-Party Plaintiffs argue that this is the correct result, because volume drove the cost of the remedy. However, the court finds that the formula unfairly penalizes volume in this case and must therefore be rejected.

#### (c) Waste Strength Scores

Bernheim instructed Brown and Lowe to evaluate waste based on the following directive:  
Given the features of this site, assess the relative contribution of each waste component, per unit of weight, to the *ex ante* likelihood that the releases and/or threatened releases at the site would lead to the requirement that the site be capped, and that other ordered action be taken.

(TPP 191 at 17; *see* TPP 189 at 21.) To answer the question, the KPC evaluated the toxicity, mobility, and physical state of each waste stream. (TPP 191, § 2.0 at 17.)

Accordingly, the waste strength scores that are plugged into Bernheim's formula have been

established according to the KPC's evaluation of toxicity with reference to each waste stream's contribution to the *ex ante* likelihood that remediation would be necessary. Third-Party Defendants urge the court to look instead to the administrative record to determine what contaminants influenced EPA's decisions concerning whether and to what extent remediation would be required at the Site. However, if the court followed this approach, the toxicity side of the equation would account only for those contaminants that were actually released. This approach would have the effect of rewarding polluters who disposed of hazardous substances that, by happenstance, were not released or detected during EPA's evaluation of the Site.

Additionally, any hazardous substance present at the Site poses a threat to human health and the environment. CERCLA imposes liability if there is "a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance ...." 42 U.S.C. § 9607(a)(4). Whether a hazardous substance has been released at the time EPA undertakes its investigation is not determinative. The impermeable cap is designed in part to minimize the threat of future releases of hazardous substances. Thus, the "harm" that necessitates a clean-up includes the threat of future releases. Accordingly, the court accepts Third-Party Plaintiffs' argument that toxicity may be evaluated from an *ex ante* perspective.

#### B. THE COURT'S APPROACH

Although each of the allocation methods submitted to the court will be rejected for the reasons outlined above, each side's input certainly will assist the court in solving the problem of cost allocation in this case. FN45

**\*102** The court accepts Third-Party Plaintiffs' argument that waste streams should be segregated, and that differing degrees of toxicity that exist among the various waste streams must be recognized. The only system that has been offered to the court to accomplish this is the KPC waste strength scoring system. The court finds that the KPC system has merit and will use the KPC scores to assist in determining the proper allocation of costs in this case. The following principles will guide the court's allocation:

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(1) It is impossible to calculate, with mathematical precision, the extent to which volume and toxicity each contributed to the incurrence and extent of response costs at the Site. However, the court is convinced that both volume and toxicity contributed substantially to the harm:

- (a) The presence of "high waste strength" waste streams heavily influenced the Site's placement on the NPL and probably also influenced EPA's selection of a multi-layer cap as the permanent remedy for the Site;
- (b) Assuming that a multi-layer cap is the permanent remedy, its total cost is driven by volume;
- (3) Each waste stream contributed some hazardous substances and some volume to the Site;
- (4) Similar waste streams should be treated the same;
- (5) One ton of waste with a high waste strength should bear a larger share of responsibility than one ton of low waste strength waste.

Taking into account these principles, the court will calculate each party's share as follows. The court will isolate those waste streams that have low waste strength or, in Third-Party Defendants' parlance, are nonhazardous. Half of the costs will be allocated among these waste streams, which are likely to have affected response costs primarily because of their volume. The court will refer to this side of the equation as the "volume side," and will refer to the waste streams accounted for on the volume side as the "volume waste streams." The other half of the costs will be allocated among those waste streams that have high waste strength and are more likely to have affected response costs because of their toxicity. FN46 The court will refer to this side of the equation as the "toxicity side," and will refer to the waste streams accounted for on the toxicity side as the "toxicity waste streams." Given the substantial impact of both volume and toxicity on the environmental harm that precipitated the response costs at the Site, a 50/50 distribution between these two factors is equitable.

Each waste stream's toxicity and volume will be accounted for once. The court will multiply each waste stream's volume by its KPC score to arrive at a "weighted volume" figure. The 50% share assigned to each class will be allocated within that class in proportion to the waste streams' relative weighted volume. Because every waste stream on the volume side was assigned a 6 or a 7, multiplying

these waste streams by their KPC scores will essentially lead to a volumetric allocation within that class. However, attention to even slight dissimilarity among the various waste streams' characteristics is important here. Obviously, the toxicity side will be more sensitive to waste strength because there exists a greater disparity of toxicity among those waste streams.

\*103 Based on the information that is available, the court is confident that this is the most equitable method of allocating costs in this case. The court cautions, however, that this method will not work in all cases, as drawing a line between the two "classes" of waste is potentially very difficult. However, drawing such a line does not present a close question in this case. Under the KPC's scoring system, the lowest possible score is a six. Waste streams that received a score of six generally were comprised of wood, paper, or cardboard. The next lowest score, a seven, was assigned to all waste streams that were composed of MSW or plant trash containing low levels of hazardous substances. No party disputes that waste streams that received a score of six or seven influenced response costs in this case primarily because of their volume. The next lowest KPC score assigned to a waste stream in this case was an eleven, which was the score assigned to GE's electroplating sludge, which was replete with metals. Accordingly, the court has no difficulty concluding that if a line is to be drawn between waste streams that contributed to response costs because of their volume, and waste streams that contributed to response costs because of their toxicity, that line should be drawn somewhere between seven and eleven.

Each waste stream's share will be calculated as follows:

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:
:                               :Volume Smaxexessity Shares
:
:                               :
:   [ (0.50) (volume) (KPC Score) ]:[ (0.50) (volume) (KPC Score) ]/
:
:                               :
:   total weighted volume of  total weighted volume of
:
:                               :
:                               :volume shmaxexessity shares
:

```

A chart illustrating allocation of the volume side is attached hereto at Appendix E-1. A chart illustrating allocation of the toxicity side is attached hereto at Appendix E-2. Each party's share will be determined by aggregating the shares assigned to its various waste streams. A chart showing each party's combined share is attached hereto at Appendix E-3.

The court's method is not intended to represent a composite of the two schemes proposed by the parties. Third-Party Defendants' model has one attribute that the court considers relevant to this case, which is that it counts each waste stream only once. However, any resemblance between the court's allocation method and Third-Party Defendants' method ends there. The court's method segregates waste streams and allocates responsibility within each category with reference to a graduated waste strength scoring system. The court has rejected Third-Party Defendants' argument that waste stream segregation is inappropriate.

Because the court agrees with Third-Party Plaintiffs that waste stream segregation and ranking is desirable, the court's methodology may resemble some aspects of Third-Party Plaintiffs' allocation formula. However, any similarity springs from the court's agreement with some of the Third-Party Plaintiffs' arguments in principle, rather than from the court's endorsement of the Bernheim model.

The court notes that it is concerned by the subjectivity inherent in the KPC scoring system. However, this concern does not compel rejection of the KPC's system altogether. Any system that attempts to compress all of the characteristics of a waste stream into a single number inevitably will require individual decisions to be made. The KPC scoring system is the most comprehensive evidence of the waste streams' toxicity that has been introduced into the record. The court has examined the KPC's scoring system to ensure that the scores

are consistent with the court's findings of fact regarding each party's waste streams. In some instances, the court has found it appropriate to adjust the KPC scores assigned to particular waste streams and has noted any such adjustments in its findings of fact. However, the court will not second-guess the experts, and has only modified the scores in instances where the record has failed to conform to the information that the KPC relied on. Otherwise, the court accepts the KPC scores as correct.

**\*104** Using the KPC scores to achieve a weighted volumetric share on each side accomplishes two things. First, it puts into practice the court's view that one ton of waste with a high waste strength should bear a larger share of responsibility than one ton of low waste strength waste. Second, weighting volume by waste strength ensures that similar waste streams are treated the same. Those waste streams that received the same waste strength score are apportioned the same measure of costs per ton.

#### IV. THIRD-PARTY PLAINTIFFS' PAST COSTS

Third-Party Plaintiffs may recover "necessary costs of response ... consistent with the national contingency plan," 42 U.S.C. § 9607(a)(4)(B), including "enforcement activities related thereto." 42 U.S.C. § 9601(25). Necessary costs of response "must be necessary to the containment and cleanup of hazardous releases." *FMC Corp. v. Aero Industries, Inc.*, 998 F.2d 842, 848 (10th Cir. 1993) (citations omitted). The national contingency plan ("NCP") provides:

Any response action carried out in compliance with the terms of an order issued by EPA pursuant to section 106 of CERCLA, or a consent decree entered into pursuant to section 122 of CERCLA, will be considered "consistent with the NCP."

40 C.F.R. § 300.700(c)(3)(ii). This language creates an irrebuttable presumption that any necessary

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response costs incurred by a private party in compliance with a unilateral order or a consent decree will be recoverable. *Central Maine*, 838 F. Supp. at 647. Therefore, any actions taken by the Third-Party Plaintiffs pursuant to the terms of the OU-1 and OU-2 orders, or the Consent Decree will be deemed consistent with the NCP.

Third-Party Plaintiffs have submitted documentation of the costs they have incurred in connection with cleaning up the Site through February 1995. The court notes that, prior to submitting the issue of past costs to the court, Third-Party Plaintiffs voluntarily reduced their claimed expenses by \$10,303.45 in response to Third-Party Defendants' objections. (TPD 1618) Upon review of the documentation, the court finds that Third-Party Plaintiffs' costs, for the most part, are reasonable and are recoverable under CERCLA.

Third-Party Defendants argue that Third-Party Plaintiffs have failed to adequately document the \$1,209,250 they have paid to the United States pursuant to the Consent Decree. Third-Party Defendants point out that the documents that Third-Party Plaintiffs have submitted to the court fail to specify whether any of the costs for which Third-Party Plaintiffs have compensated the United States were related to nonrecoverable oversight costs. *See Rohm & Haas*, 2 F.3d at 1279 (costs incurred in connection with government's supervision of private removal and remedial actions are not recoverable response costs, but instead are nonrecoverable oversight costs). However, the court finds Third-Party Plaintiffs' payments to be reasonable and adequately documented.

**\*105** Third-Party Plaintiffs presumably are motivated to protect their own interests. Thus, in all likelihood, they would not have paid the United States any sums that are improper. First, they are not liable to the United States for any costs of overseeing their private remedial action. *Rohm & Haas*, 2 F.3d at 1279. Second, under any resolution of cost allocation in this case, they will remain liable for a substantial portion of the sums paid. Therefore, Third-Party Plaintiffs have every motivation to ensure that the sums they have paid to the United States are correct and are, in fact, recoverable costs.

Additionally, this court found the Consent Decree to

be reasonable, fair, and consistent with CERCLA's goals. *Atlas Minerals*, 851 F. Supp. at 655. Third-Party Plaintiffs' payment of the sum specified in the Consent Decree complies with the terms of the Consent Decree, which was entered into pursuant to CERCLA § 122. The court sees no reason to disregard any portion of the \$1,209,250 that the Third-Party Plaintiffs have paid to the United States. Third-Party Plaintiffs therefore may recover from Third-Party Defendants their respective allocable shares pursuant to CERCLA § 113(f).

As of February 1995, Third-Party Plaintiffs have incurred and paid the following expenses pursuant to the OU-1 and OU-2 orders:



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. Woodward-Clyde	-
\$682,348.68	. O'Brien & Gere
	-
\$ 71,651.36	. de maximis
	-
\$229,347.87	

The court has reviewed the supporting documentation and finds that these sums appear to be reasonable. Additionally, the activities for which Woodward-Clyde, O'Brien & Gere, and de maximis charged Third-Party Plaintiffs were required by the OU-1 and OU-2 orders. As with the payment to the United States, Third-Party Plaintiffs have every incentive to ensure that the amounts paid to Woodward-Clyde, O'Brien & Gere, and de maximis are accurate. Accordingly, Third-Party Defendants will be held jointly and severally liable for these costs under CERCLA § 107(a).

Third-Party Plaintiffs may also recover from Third-Party Defendants the \$77,649.89 that has been paid to Nihill & Riedley. Third-Party Plaintiffs retained Nihill & Riedley to assist with the identification of solvent PRPs. In *Key Tronic*, the Supreme Court stated:

Tracking down other responsible solvent polluters increases the probability that a cleanup will be effective and get paid for. Key Tronic is therefore quite right to claim that such efforts significantly benefited the entire cleanup effort and served a statutory purpose apart from the reallocation of costs.

128 L. Ed. 2d at 807-08. Third-Party Defendants urge the court to disregard or reduce the expenses that Third-Party Plaintiffs incurred in connection with Nihill & Riedley's PRP search, as these services also benefited Third-Party Plaintiffs' ability to initiate and maintain the third-party action in this case. Third-Party Defendants argue that the costs incurred in connection with the PRP search are not recoverable because their primary purpose was to identify Third-Party Defendants. This argument is based on an incorrect interpretation of *Key Tronic* and must be rejected.

\*106 In *Hatco Corp. v. W.R. Grace & Co.*, 849 F. Supp. 931 (D.N.J. 1994), the court stated: Where an investigatory expense is incurred in response to contamination, it is irrelevant to cost

recovery under CERCLA that the information gathered during the investigation can then be utilized in a later cost recovery action. *HRW Sys., Inc. v. Washington Gas Light Co.*, 823 F. Supp. 318, 343 (D. Md. 1993). In the same vein, while a consultant's fee would not be recoverable if incurred specifically for the services of an expert witness, the Court will not deny recovery of a consultant's fee incurred during an investigation or removal action merely because the personal knowledge gained by the consultant might enhance expert testimony given during a subsequent cost recovery action.

849 F. Supp. at 971. Third-Party Plaintiffs retained Nihill & Riedley to identify solvent PRPs. The claimed expenses primarily relate to Nihill & Riedley's gathering of information from Oswald and Selig and from various haulers, as well as investigating the financial status of various PRPs. (TPP 1029)

Third-Party Defendants' argument that these costs are not recoverable because they were incurred in anticipation of the third-party action amounts to a difference without distinction. A PRP investigation accomplishes more than just shifting costs around. In *Key Tronic*, the Court recognized that costs incurred in connection with a PRP search advance a statutory purpose in addition to reallocation of costs. Although it is true that once solvent PRPs are identified, response costs may be recovered from them through litigation, allowing recovery of costs associated with the investigation is totally consistent with CERCLA's goals. Properly construed, *Key Tronic* does not disallow recovery of costs that happen to facilitate the reallocation of costs. Such costs must, however, serve CERCLA's goals of assuring that "a cleanup will be effective and get paid for." *Key Tronic*, 128 L.Ed. 2d at 807-08.

Upon review of documentation of expenses that Third-Party Plaintiffs have incurred and paid to Nihill & Riedley in connection with the PRP search, the court finds the expenditures to be reasonable and amply supported. Accordingly, Third-Party

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Defendants are liable for these costs.

Third-Party Defendants argue that the court should disregard Third-Party Plaintiffs' claimed expenditures, totalling \$38,419.39, that are attributable to work performed by ERM. The court agrees. Because this work was not performed pursuant to any of EPA's unilateral orders or pursuant to the consent decree, Third-Party Plaintiffs may not benefit from the presumption that the costs are consistent with the NCP. *See* 40 C.F.R. § 300.700(c)(3)(ii).

Third-Party Plaintiffs assert that they retained ERM to assist them in developing remedial alternatives for the Site prior to the issuance of the OU-1 and OU-2 orders, but after EPA issued the ROD/OU-1. They now seek to recover the amount they paid ERM for its work between April 1989 through May 1990. The invoices that Third-Party Plaintiffs have submitted documenting their payments to ERM describe ERM's work only in general terms. However, based on the descriptions attached to ERM's invoices, it appears that ERM engaged in a lengthy review of the EPA's RI/FS documents and attempted to formulate an alternative to the permanent remedy chosen in the ROD/OU-1. Additionally, ERM met several times with EPA regarding the 1986 emergency removal action. (TPP 2003)

\*107 The OU-1 orders commanded Third-Party Plaintiffs to implement the permanent remedy specified in the ROD/OU-1. Upon reviewing Third-Party Plaintiffs' cost submissions, the court can find no suggestion that ERM's activities contributed in any way to remediation at the Site. Thus, Third-Party Plaintiffs have failed to carry their burden of convincing the court that the amounts paid to ERM were "necessary costs of response ... consistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(B). Therefore, these costs are not recoverable from Third-Party Defendants.

In accordance with this court's order of September 26, 1994, Third-Party Plaintiffs will defer pursuing any claims against Third-Party Defendants for response costs in the nature of recoverable attorneys' fees until after the entry of judgment and exhaustion of all appeals. *United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. Sept. 26, 1994) (order). Third-Party Plaintiffs will retain

all original billing records for this purpose. *See United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. Sept. 2, 1994) (order).

In light of the foregoing, and in accordance with Fed. R. Civ. P. 52(a), the court reaches the following:

## CONCLUSIONS OF LAW

### I. JURISDICTION AND VENUE

1. This action arises under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 *et seq.* ("CERCLA") and the Hazardous Sites Cleanup Act, 35 P.S. § 6020.101 *et seq.*
2. This court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331, 28 U.S.C. § 1367, and 42 U.S.C. § 9613(b), and has in personam jurisdiction over the parties who have been served with process and/or have appeared through counsel.
3. Venue in this district is proper under 28 U.S.C. § 1391(b) and 42 U.S.C. § 9613(b).

### II. CERCLA

4. The Site is a "facility" as defined by CERCLA. 42 U.S.C. § 9601(9)(B).
5. There has been a release or threatened release of hazardous substances at the Site. 42 U.S.C. § 9601(22).
6. The release or threatened release of hazardous substances has caused the Third-Party Plaintiffs to incur response costs. 42 U.S.C. § 9601(25).
7. The response costs incurred by Third-Party Plaintiffs pursuant to the OU-1 and OU-2 orders and the Consent Decree are necessary and consistent with the National Contingency Plan ("NCP"). 42 U.S.C. § 9607(a)(4)(B); *see* 40 C.F.R. § 300.700(c)(3)(ii).
8. Third-Party Plaintiffs have an implied cause of action for recovery of response costs pursuant to 42 U.S.C. § 9607(a).

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9. In an § 107 action for cost recovery, "the court shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2). Accordingly, this court shall enter a declaratory judgment that will be binding on Third-Party Plaintiffs' recovery of future response costs from Third-Party Defendants.

\*108 10. Third-Party Plaintiffs may also assert a contribution action against Third-Party Defendants pursuant to 42 U.S.C. § 9613(f)(1).

11. Third-Party Defendants may maintain counterclaims for contribution pursuant to 42 U.S.C. § 9613(f)(1).

### III. THE PARTIES' LIABILITY AND EQUITABLE SHARES

12. The court shall allocate response costs among the liable parties using such equitable factors as the court determines are appropriate. 42 U.S.C. § 9613(f)(1); *Smith Land & Improvement Corp. v. Celotex Corp.*, 851 F.2d 86, 88 (3d Cir. 1988), *cert. denied*, 488 U.S. 1029, 109 S. Ct. 837, 102 L.Ed. 2d 969 (1989).

13. The focus of the allocation inquiry is how each party's waste contributed to the harm. *United States v. Alcan Aluminum Corp.*, 964 F.2d 252, 270 n.29 (3d Cir. 1992).

14. In this case, the court determines that the relative volume and toxicity of the waste disposed at the Site are particularly relevant equitable factors. *See, e.g., Control Data Corp. v. Musicland Group, Inc.*, No. 3-91-716, *slip op.* at 34-35 (D. Minn. Feb. 17, 1994); *rev'd in part on other grounds sub nom, Control Data Corp. v. S.C.S.C. Corp.*, 53 F.3d 930 (8th Cir. 1995).

#### A. ALLENTOWN PAINT MANUFACTURING, INC.

15. Third-Party Defendant Allentown Paint Manufacturing, Inc. ("Allentown Paint") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" within the meaning of 42 U.S.C. § 9607(a)(3). Accordingly, Allentown Paint is jointly and severally liable to

Third-Party Plaintiffs for any necessary costs of response consistent with the NCP. 42 U.S.C. § 9607(a)(4)(B).

16. The percentage share of responsibility assigned to Allentown Paint, set forth at Appendix E-3, is fair and is supported by the evidence.

#### B. AMANA REFRIGERATION, INC.

17. Third-Party Plaintiff Amana Refrigeration, Inc. ("Amana") is not a "covered person" within the meaning of CERCLA § 107(a). *United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. Oct. 20, 1994) (order granting judgment in favor of Amana Refrigeration, Inc. and against Third-Party Defendants upon Third-Party Defendants' counterclaim.) Thus, Amana is not liable for the past or future response costs with regards to the Site.

18. Third-Party Plaintiffs' recovery under CERCLA § 107(a) from Third-Party Defendants will be reduced by the equitable share attributable to Caloric's Topton facility. *United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. July 20, 1994) (order denying Third-Party Defendants' motion for sanctions).

19. The percentage share of responsibility assigned to Caloric's Topton facility, set forth at Appendix E-3, is fair and is supported by the evidence.

20. As a prevailing party, Amana is entitled to costs as provided in Fed. R. Civ. P. 54(d)(1).

#### C. ATLAS MINERALS AND CHEMICALS, INC.

21. Third-Party Plaintiffs Atlas Minerals and Chemicals, Inc. ("Atlas") and Exide Corporation ("Exide") are joint covered persons and are therefore liable for the disposal of hazardous substances from the Mertztown plant at the Site. 42 U.S.C. § 9607(a)(3); *see* TPD 49 at ¶ 3.

\*109 22. CERCLA excludes from its definition of hazardous substances "petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance ...." 42 U.S.C. § 9601(14).

23. A crude oil "fraction" has been defined as "one

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of several portions (as of a distillate or precipitate) separable by fractionation and consisting either of mixtures or pure chemical compounds." *Cose v. Getty Oil Co.*, 4 F.3d 700, 705 (9th Cir. 1993).

24. The petroleum asphalt feedstock used at the Mertztown facility during the relevant time period was a petroleum fraction. No new hazardous substances were added to the feedstock during the blowing process, and no chemical changes took place in the blowing tower. Accordingly, the asphalt condensate that was disposed of at the Site falls within the purview of the petroleum exclusion. *United States v. Alcan Aluminum Corp.*, 964 F.2d 252, 266 (3d Cir. 1992); *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 186 (S.D.N.Y. 1991); *United States v. Alcan Aluminum Corp.*, 755 F. Supp. 531, 539 (N.D.N.Y. 1991).

25. The percentage share of responsibility assigned to Atlas and Exide based on waste disposed at the Site from the Mertztown facility, set forth at Appendix E-3, is fair and is supported by the evidence.

#### D. DAILY TRASH COLLECTION

26. Third-Party Defendants Daily Trash Collection ("Daily Trash") accepted hazardous substances for transport, and selected the Site for disposal of hazardous substances. Daily Trash is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(4); *see Tippins v. USX Corporation*, 37 F.3d 87 (3d Cir. 1994).

27. The percentage share of responsibility assigned to Daily Trash, set forth at Appendix E-3, is fair and is supported by the evidence.

#### E. EAST PENN MANUFACTURING COMPANY, INC.

28. Third-Party Plaintiff East Penn Manufacturing Company, Inc. ("East Penn") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

29. The percentage share of responsibility assigned to East Penn, set forth at Appendix E-3, is fair and is supported by the evidence.

#### F. EXIDE CORPORATION -- ALLENTOWN PLANT

30. Third-Party Plaintiff Exide Corporation ("Exide") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

31. The percentage share of responsibility assigned to Exide, based on its disposal of waste at the Site from the ESB Allentown Plant, set forth at Appendix E-3, is fair and is supported by the evidence.

#### G. GAF CORPORATION

32. Third-Party Plaintiff GAF Corporation ("GAF") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

33. The percentage share of responsibility assigned to GAF, set forth at Appendix E-3, is fair and is supported by the evidence.

#### H. GARDEN STATE TANNING, INC.

\*110 34. Third-Party Plaintiff Garden State Tanning, Inc. ("Garden State") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

35. The percentage share of responsibility assigned to Garden State, set forth at Appendix E-3, is fair and is supported by the evidence.

#### I. GENERAL ELECTRIC COMPANY

36. Third-Party Plaintiff General Electric Company ("GE") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

37. The percentage share of responsibility assigned to GE, set forth at Appendix E-3, is fair and is supported by the evidence.

#### J. THE GLIDDEN COMPANY

38. Third-Party Plaintiff The Glidden Company ("Glidden") arranged for the disposal of hazardous



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substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

39. The percentage share of responsibility assigned to Glidden, set forth at Appendix E-3, is fair and is supported by the evidence.

#### K. CLIFFORD HILL

40. Third-Party Defendant Clifford Hill ("Hill") accepted hazardous substances for transport, and selected the Site for disposal of hazardous substances. Additionally, Hill operated the Site in partnership with Harold Oswald from January 1967 until June 1967. Hill is, therefore, a "covered person" under CERCLA. 42 U.S.C. §§ 9607(a)(1) & 9607(a)(4); *see Tippins v. USX Corporation*, 37 F.3d 87 (3d Cir. 1994).

41. The percentage share of responsibility assigned to Hill, set forth at Appendix E-3, is fair and is supported by the evidence.

#### L. MACK TRUCKS, INC.

42. Third-Party Plaintiff Mack Trucks, Inc. ("Mack") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

43. The percentage share of responsibility assigned to Mack, set forth at Appendix E-3, is fair and is supported by the evidence.

#### M. ROBERT J. McAULIFFE

44. Third-Party Defendants Robert J. McAuliffe ("McAuliffe") accepted hazardous substances for transport and disposal at the Site. McAuliffe selected the Site for disposal of hazardous substances. McAuliffe is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(4); *see Tippins v. USX Corporation*, 37 F.3d 87 (3d Cir. 1994).

45. The percentage share of responsibility assigned to McAuliffe, set forth at Appendix E-3, is fair and is supported by the evidence.

#### N. SAAB METALS CORPORATION

46. The evidence is insufficient to support a finding

that Third-Party Defendant Saab Metals Corporation ("Saab") disposed of, or arranged for the disposal of, hazardous substances at the Site. Therefore, Saab is not a "covered person" under CERCLA. 42 U.S.C. § 9607(a).

47. Saab is not liable or potentially liable for contribution. 42 U.S.C. § 9613(f)(1).

#### O. SAUCONY SHOE MANUFACTURING COMPANY, INC.

\*111 48. Third-Party Defendant Saucony Shoe Manufacturing Company, Inc. ("Saucony II") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

49. The court finds that it is equitable, under all the circumstances, to allocate to Saucony II the portion of response costs associated with waste that Saucony Shoe Manufacturing Company ("Saucony I") sent to the Site from the Kutztown plant prior to October 24, 1968. 42 U.S.C. § 113(f)(1).

50. Saucony II is a "responsible person" under HSCA. 35 P.S. § 6020.701(a).

a. Saucony II generated, owned or possessed hazardous substances, and arranged by contract, agreement, or otherwise for the disposal of hazardous substances at the Site. 35 P.S. § 6020.701(a)(2); *see* 35 P.S. § 6020.103 (definition of "hazardous substances").

b. The Site is a "site" under HSCA. 35 P.S. § 6020.103.

c. There has been a release or threatened release of hazardous substances at the Site. 35 P.S. § 6020.701(a).

d. The release or threatened release of hazardous substances at the Site has contributed significantly to Third-Party Plaintiffs' incurrence of response costs. 35 P.S. § 6020.702(a)(3).

51. The percentage share of responsibility assigned to Saucony II, set forth at Appendix E-3, is fair and is supported by the evidence.

#### P. SCA SERVICES, INC.

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52. Third-Party Defendant SCA Services, Inc. ("SCA") has stipulated that it is a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(4).

53. SCA "selected" the Site for disposal of waste under its contracts with the City of Allentown, as well as for the disposal of waste under its contracts with various commercial customers. *Tippins v. USX Corporation*, 37 F.3d 87 (3d Cir. 1994).

54. SCA is a "responsible person" under HSCA. 35 P.S. § 6020.701(a)(3).

a. SCA accepted hazardous substances for transport to the Site. 35 P.S. § 6020.701(a)(3).

b. SCA selected the Site. 35 P.S. § 6020.701(a)(3).

c. The Site is a "site" under HSCA. 35 P.S. § 6020.103.

d. There has been a release or threatened release of hazardous substances at the Site. 35 P.S. § 6020.701(a).

e. The release or threatened release of hazardous substances at the Site has contributed significantly to Third-Party Plaintiffs' incurrence of response costs. 35 P.S. § 6020.702(a)(3).

55. The percentage share of responsibility assigned to SCA, set forth at Appendix E-3, is fair and is supported by the evidence.

#### Q. THE STROH BREWERY COMPANY

56. Third-Party Plaintiff The Stroh Brewery Company ("Stroh") is the successor-in-interest to the F & M Schaefer Brewing Company ("Schaefer"). (TPD 462 at ¶ 40(b).)

57. Stroh arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

58. The percentage share of responsibility assigned to Stroh, set forth at Appendix E-3, is fair and is supported by the evidence.

#### R. TBA AUTO BODY PARTS, INC.

\*112 59. Third-Party Defendant TBA Auto Body

Parts, Inc. ("TBA") arranged for the disposal of hazardous substances at the Site and is, therefore, a "covered person" under CERCLA. 42 U.S.C. § 9607(a)(3).

60. The percentage share of responsibility assigned to TBA, set forth at Appendix E-3, is fair and is supported by the evidence.

#### IV. RECOVERABILITY OF PAST COSTS

61. As covered persons under CERCLA, Third-Party Defendants are liable for "any other necessary costs of response incurred by any other person consistent with the National Contingency Plan." 42 U.S.C. § 9607(a)(4)(B).

62. The NCP contains an irrebuttable presumption that costs incurred in complying with the terms of an administrative order or consent decree are consistent with the NCP. 40 C.F.R. § 300.700(c)(3)(ii) ("Any response action carried out in compliance with the terms of an order issued by EPA pursuant to section 106 of CERCLA, or a consent decree entered into pursuant to section 122 of CERCLA, will be considered 'consistent with the NCP.'"). See *Central Maine Power Co. v. F.J. O'Connor Co.*, 838 F. Supp. 641, 647-48 (D. Me. 1993). All expenses incurred in connection with actions taken by the Third-Party Plaintiffs pursuant to the terms of the OU-1 orders, the OU-2 order, or the Consent Decree are deemed consistent with the NCP and are therefore recoverable.

63. Third-Party Defendants are liable to Third-Party Plaintiffs for past response costs incurred by Third-Party Plaintiffs totalling \$1,060,997.80.

a. Third-Party Plaintiffs have incurred response costs totalling \$983,347.91 pursuant to the terms of the OU-1 orders, OU-2 order, and the Consent Decree. (682,348.68 [Woodward-Clyde] + 71,651.36 [O'Brien & Gere] + 229,347.87 [de maximis]) These costs are presumptively consistent with the NCP, and are recoverable response costs for which the Third-Party Defendants are jointly and severally liable. See 42 U.S.C. § 9607(a).

b. Third-Party Plaintiffs have paid \$77,649.89 to Nihill & Riedley for activities related to tracking down solvent PRPs. These costs are necessary costs of response and are consistent with the NCP. Key

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*Tronic*, 114 S. Ct. at 1967. Therefore, these costs are recoverable under CERCLA.

64. Third-Party Plaintiffs have paid the United States \$1,209,250 to reimburse the United States for its past response costs at the Site. This amount is presumptively consistent with the NCP and therefore represents recoverable response costs. Accordingly, Third-Party Defendants are liable to Third-Party Plaintiffs in proportion to their respective equitable shares in accordance with the court's allocation schedule set forth at Appendix E-3. *See* 42 U.S.C. § 9613(f).

65. Third-Party Plaintiffs have paid \$38,419.39 to Environmental Resources Management, Inc. ("ERM"). Third-Party Plaintiffs have failed to carry their burden of proving that the amounts paid to ERM were necessary and consistent with the NCP. Therefore, this amount is not recoverable from Third-Party Defendants.

\*113 An appropriate order follows.

#### APPENDIX A

##### Glossary of Acronyms

###### ARAR

applicable or relevant and appropriate requirementATF

Bureau of Alcohol, Tobacco and Firearmsccy

compacted cubic yardsCERCLA

Comprehensive Environmental Response, Compensation and Liability ActCERCLIS

Comprehensive Environmental Response, Compensation and Liability Act Information System DER

Pennsylvania Department of Environmental ResourcesDSWM

Division of Solid Waste ManagementEPA

Environmental Protection AgencyERCS

Emergency Response Cleanup ServicesERM

Environmental Resources Management, Inc.ESD

Explanation of Significant DifferencesFS

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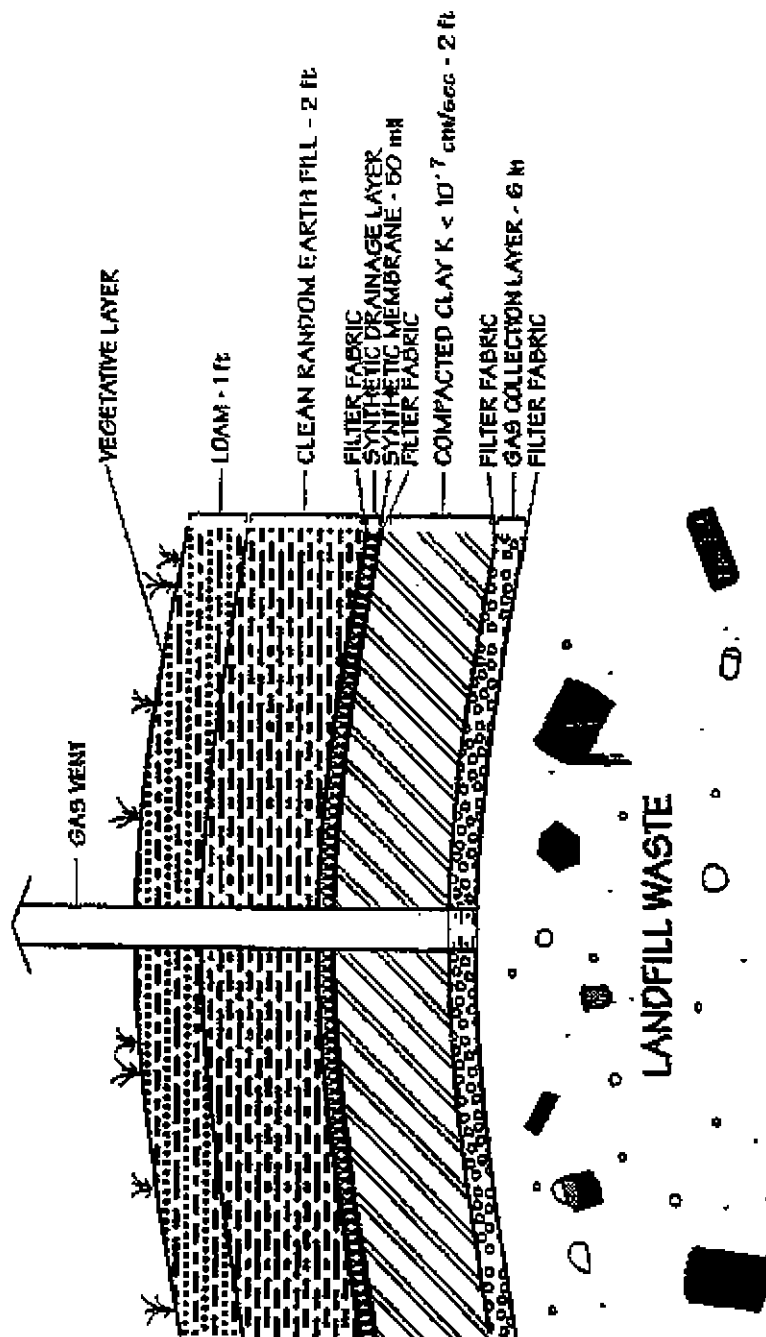
Feasibility Study	HRS	-
Hazard Ranking System	mlcy	-
loose cubic yards	MEK	-
methyl ethyl ketone	MIBK	-
methyl isobutyl ketone	MSW	-
municipal solid waste	NPL	-
National Priorities List	OSC	-
On-Scene Coordinator	OU-1	-
Operable Unit One (addressing soil contamination)	OU-2	-
Operable Unit Two (addressing groundwater concerns)	PA	-
Preliminary Assessment	PaDER	-
Pennsylvania Department of Environmental Resources	PASWR	-
Pennsylvania Solid Waste Regulations	PNA	-
polynuclear aromatic hydrocarbon	RAMP	-
Remedial Action Master Plan	RI	-
Remedial Investigation	ROD	-
Record of Decision	SARA	-
Superfund Amendments and Reauthorization Act of 1986	SI	-
Site Inspection	TAT	-
Technical Assistance Team	TCE	-
trichloroethylene	TMV	-
toxicity, mobility and volume	UCFA	-
Uniform Comparative Fault Act		



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# APPENDIX B-1



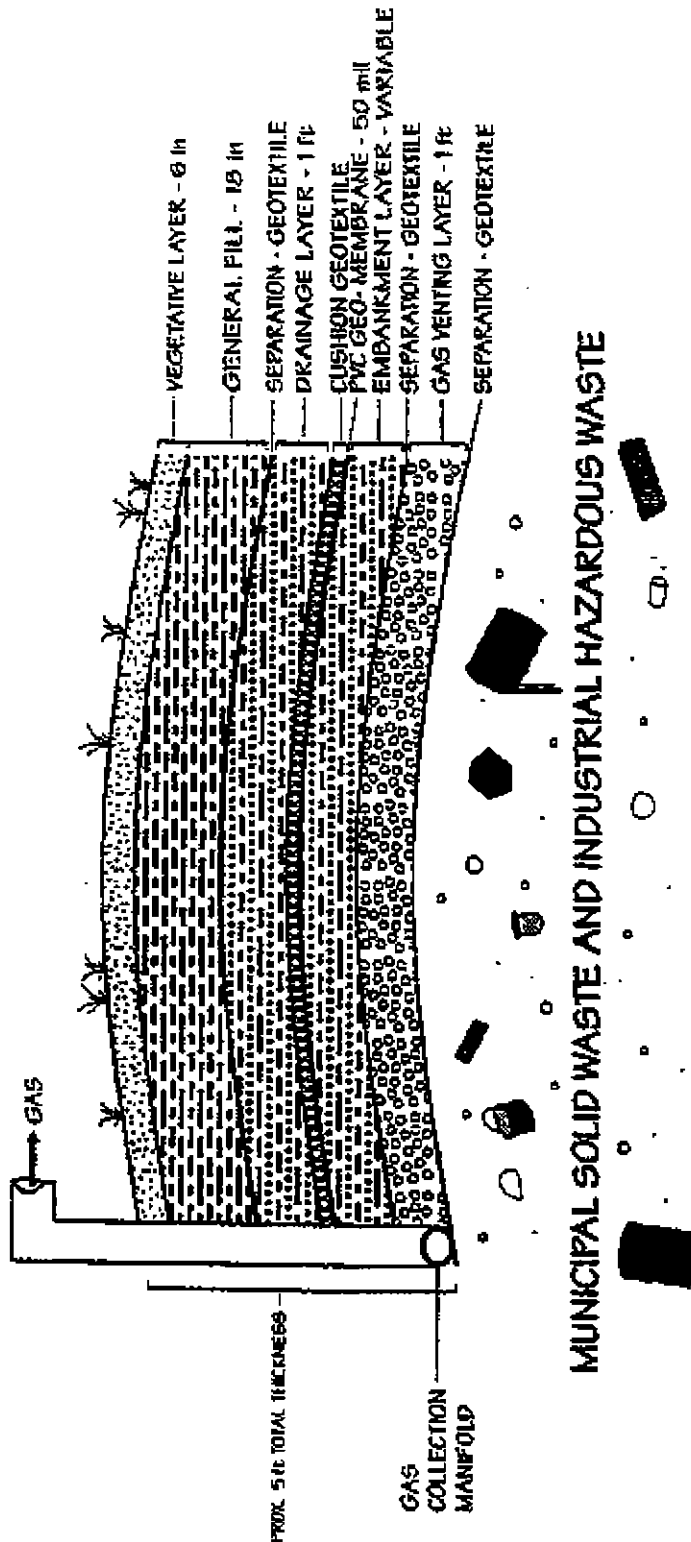
## RCRA SUBTITLE C MULTI-LAYER CAP

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APPENDIX B-3

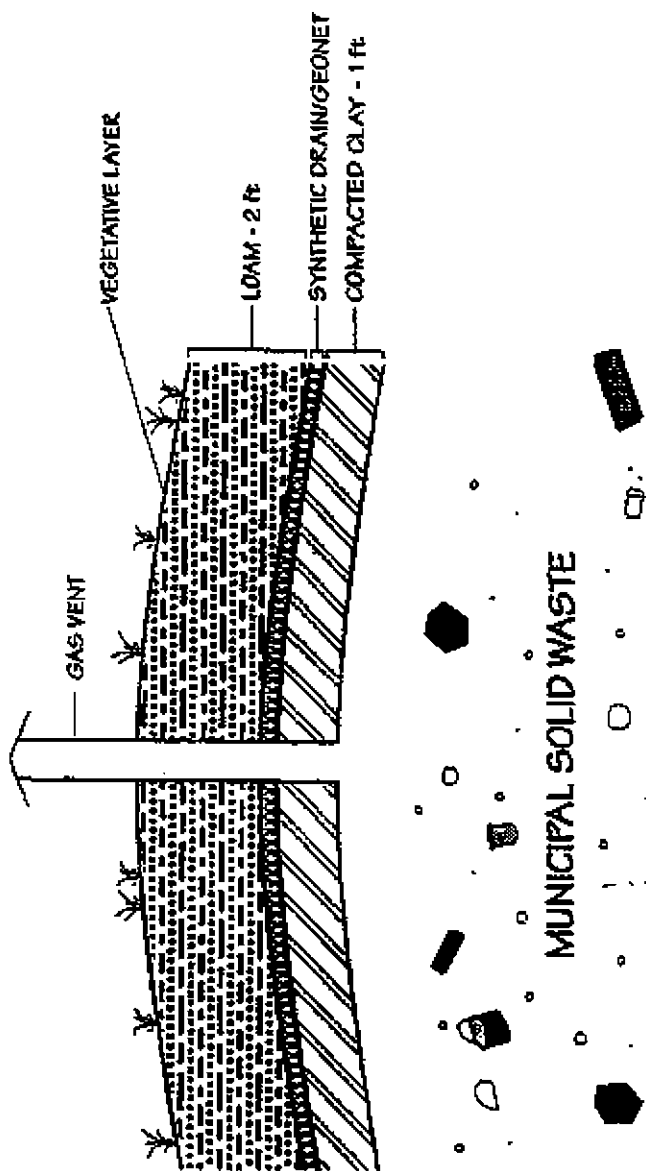


THIRD PARTY PLAINTIFFS' CAP DESIGN FOR DORNEY ROAD LANDFILL  
(FROM WOODWARD-CLYDE DESIGN DOCUMENTS)

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# APPENDIX B-4



## PENNSYLVANIA DER MULTI-LAYER CAP ALTERNATIVE MUNICIPAL SOLID WASTE LANDFILL 1988 REGULATIONS

### APPENDIX C

#### EXAMPLE SHEET

ORGANIC SOLVENTS

Content in Waste:

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<0.5%	1				0.5to20%24-Low to
Average Toxicity/Mobility			20%	to	40%
Toxicity/Mobility		60%	to	80%	880%to100%106-
Very High Toxicity/Mobility					INORGANICS Content in Waste:
<0.5%	1	1	-	Low to Average Toxicity/Mobility	0.5to20%220%
to	40%	4	3	-	High Toxicity/Mobility40%to60%660%
to	80%	8	6	-	Very High Toxicity/Mobility_80%to
100%	10				WASTE PHYSICAL STATESOLID/
MSW-LIKE	1				SLUDGE/POWDER1
GRINDINGS		5			LIQUIDS10__TOTAL
SCORE					

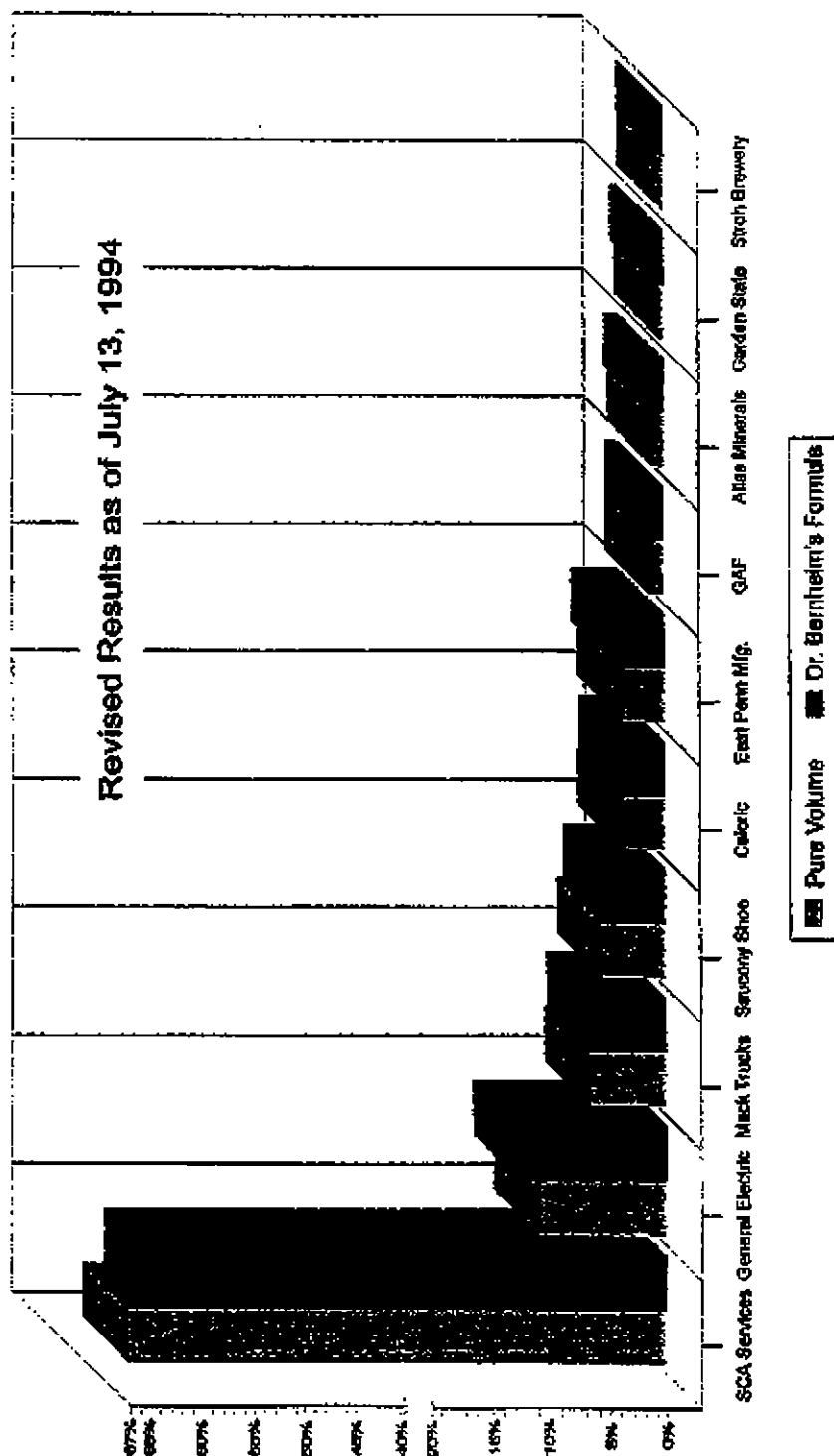


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# APPENDIX D

## Comparative Analysis of Third-Party Plaintiffs' Allocation Pure Volume Versus Dr. Bernheim's Formula



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# APPENDIX E-1

## VOLUME SHARES

PARTY	KPC	WEIGHTED SCORE	EDM <del>2</del> SHARE VOLUME ( 1/2 share)	
Amana				
.				plant trash
3,220.09	22,540.63		7	
.				construction
1,520.00	10,640.00		7	
.				wood
334.38	2,006.28		6	
.				tires
1.00	6.00		6	
.				scrap
36.88	258.16		7	
Subtotal-Amana	35,451.07		2.04	
Atlas/Exide "B"	7455.00		65.00	
.			0.03	
.				Daily Trash
1,915.26	13,406.82		7	
.			0.77	
East Penn				
.				plant trash
1,774.75	10,648.50		6	
.			0.61	

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Exide/A'town

.			plant trash
492.50	2,955.00		6
		0.17	

GAF

.			plant trash
492.50	2,955.50		6
		0.17	

.			lin/sludge
1,350.00	9,450.00		7

Subtotal-GAF

25,718.00	1.48
-----------	------

GE

.			plant trash
5,736.00	40,152.00		7
		2.32	

Glidden

.			trash
0.34	2.338		7
		de minimus	

Hill

788,914.00	12,702.00
5.13	

Mack

.			All. planttr.
3,087.00	21,609.00		7
2,190.00	15,330.00		Mac. planttr.
			7

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.			wood
5,566.84			
	33,401.04	6	
.			loose waste
717.00			
	5,019.00	7	
Subtotal-Mack			
	75,359.04		
		4.34	
McAuliffe			
	7220,626.00	31,518.00	
		12.72	
Saucony			
.			plant trash
			Kutztown1
762.35			
	4,574.10	6	
.			Kutztown 2
294.93			
	1,769.568	6	
.			
			Mac/Emm
208.95			
	1,253.70	6	
Subtotal-Saucony			
	7,597.38		
		0.44	
SCA			
.			A'town MSW
			(50% share)
45,454.00			
	332,178.00	7	
.			Commercial
587.40			
	4,111.80	7	
Subtotal-SCA			
	336,289.80		
		19.39	
Stroh			



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.			plant trash
180.00			
	1,260.00		7
.			
			diat. earth
			& waste syrup
143.50			
	1,004.50		7
.			
			waste beer
454.00			
	3,178.00		7
.			
			wastelabels
15.00			
	105.00		7
Subtotal-Stroh			
	5,547.50		
		0.32	
TBA AutoParts			
	74,237.31		605.33
		0.24	
TOTAL			
	***** 867,359.80		*****
		50.00	

## APPENDIX E-2

### TOXICITY SHARES

PARTY	VOLUME	KPC	WEIGHTED	% SHARE SCORE	VOLUME( 1/2 share)
Allentown Paint					
				paint waste	
					64.03
			17		
	0.26				1,088.51
Amana					
				drums	
					26.29
			19		
	0.12				499.51
Atlas/Exide					
				"A"	
					1,233.00
			12		
		3.53			14,796.00
East Penn					
				bat. casings	

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			3,315.00
		17	
	13.43		56,355.00
Garden State			
			drums
			413.73
		19	
	1.87		7,860.87
GE			
			oil
			50.40
		15	
			756.00
	degr. sludge		
			2.55
		51	
			130.05
	elect. sludge		
			11,007.41
		11	
			121,081.51
Subtotal-GE			
	125,131.60		
			29.81
Glidden			
			liquid waste
			11.49
		38	
	0.10		436.62
Mack			
			paint waste
			193.24
		19	
	0.87		3,671.56
TOTAL	*****		
			*****
		209,839.67	
			50.00

### APPENDIX E-3

#### TOTAL PERCENTAGE SHARES

TOTAL	VOLUME	TOXICITY	PARTY
% SHARE	% SHARE	% SHARE	
0.26	0.00	0.26	Allentown Paint
2.16	2.04	0.12	Amana

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	0.03	3.53	Atlas/Exide
3.56			
	0.77	0.00	Daily Trash
0.77			
	0.61	13.43	East Penn
14.04			
	0.17	0.00	Exide/A'town
0.17			
1.48	1.48	0.00	GAF
1.48			
	0.00	1.87	Garden State
1.87			
	2.32	29.82	GE
32.14			
	de minimus	0.10	Glidden
0.10			
	5.13	0.00	Hill
5.13			
	4.34	0.87	Mack
5.21			
	12.72	0.00	McAuliffe
12.72			
	0.44	0.00	Saucony
0.44			
	19.39	0.00	SCA
19.39			
	0.32	0.00	Stroh
0.32			
	0.24	0.00	TBA AutoParts
0.24			
	50.00	50.00	TOTAL
100.00			

[page number]).

FN1. The parties have intimated that if this court's ruling is unfavorable, an appeal to the Court of Appeals for the Third Circuit will follow. In order to aid the law clerks in that court, this court attaches a glossary of acronyms hereto at Appendix A.

FN2. The court will refer to Third-Party Plaintiffs' exhibits as "TPP \_\_\_\_" and will refer to Third-Party Defendants' exhibits as "TPD \_\_\_\_." Where the court cites exhibits comprised of multiple pages, the referenced page will be cited as it appears in the document if practicable. In some instances, the referenced page will be cited by its Bates stamp number.

FN3. Citations to the trial transcript will appear as ([name of witness], Tr. [date] at [page number]). Citations to deposition testimony will appear as ([name of witness], Dep. [date of deposition] at

FN4. MSW encompasses "only those wastes which are not required to be managed as hazardous wastes under Subtitle C of [the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6991 ("RCRA")]."

FN5. RCRA defines "hazardous waste" as: a solid waste, or combination of solid wastes which because of its quantity, concentration, or physical, chemical, or infectious characteristics may -- (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. 42 U.S.C. § 6903(5). RCRA broadly defines "solid

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wastes" to encompass solids, sludges, liquids and gases. 42 U.S.C. § 6903(27).

Regulations promulgated under RCRA amplify the definition of hazardous waste. The regulations designate waste as "hazardous" if it meets one of three criteria: (1) it has a characteristic of hazardous waste; (2) it is listed as a hazardous waste; or (3) it is a mixture that contains hazardous waste. 40 C.F.R. § 261. Household wastes are specifically excluded from regulation as hazardous waste under RCRA. 40 C.F.R. § 261.4(b)(1).

FN6. The objective of the RI "is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives." 40 C.F.R. § 300.430(d)(1). The RI also provides information to enable EPA to assess the risks to public health and to the environment. *Id.*

FN7. The primary objective of the FS is "to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected." 40 C.F.R. § 300.430(e)(1).

FN8. To be eligible for selection, each alternative proposed as a result of the RI/FS must meet two threshold criteria. 40 C.F.R. § 300.430(f)(1)(i)(A). First, the alternative must adequately protect human health and the environment from unacceptable risks posed by hazardous substances, pollutants or contaminants present at the Site. 42 U.S.C. § 9621(d); *see* 40 C.F.R. § 300.430(e)(9)(iii)(A). Second, the alternative must fulfill all applicable or relevant and appropriate requirements ("ARARs"). 42 U.S.C. § 9621(d); *see* 40 C.F.R. § 300.430(e)(9)(iii)(B).

Five additional "balancing" criteria are considered in the remedy selection process. 40 C.F.R. § 300.430(f)(1)(i)(B). The balancing criteria are: (1) long-term effectiveness and permanence, along with the degree of certainty that the alternative will prove successful; (2) the degree to which alternatives will reduce toxicity, mobility, or volume ("TMV"); (3) short-term effectiveness; (4) the ease or difficulty of implementation; and (5) cost. 40 C.F.R. § 300.430(e)(9)(iii)(C)-(G). Finally, acceptance of the alternatives by the state and the community are modifying criteria which are considered in selecting the remedy. 40 C.F.R. § 300.430(f)(1)(i)(C); *see* 40

C.F.R. § 300.430(e)(9)(iii)(H) & (I).

FN9. Cross-section drawings of (1) a RCRA multi-layer cap; (2) a PaDER hazardous waste cap; (3) the cap that is now being designed for the Site; and (4) a PaDER municipal waste cap are attached hereto at Appendix B. (TPD 989)

FN10. The court discusses the scores developed by Brown and Lowe in the "Discussion" section following the court's findings of fact. A sample scoring sheet is attached hereto at Appendix C.

FN11. compacted cubic yards

loose cubic yards

The court attributed charges of \$77/month to Hill for January 1967 - June 1967. Hill was not charged for waste disposal during these months although he continued to use the landfill. The average charges to Hill for the remainder of the year was \$77/month.

FN14. Section 106 orders are often entered into consensually following negotiations between EPA and the responsible parties. Indeed, § 106 consent orders appear to be the favored method of cleaning up waste sites since they generally are quicker and involve less government expense than cleanups conducted by the government pursuant to § 104. *United States v. Rohm & Haas Co.*, 2 F.3d 1265, 1270 (3d Cir. 1993) (citations omitted).

FN15. "The terms 'respond' or 'response' means remove, removal, remedy, and remedial action, all such terms (including the terms 'removal' and 'remedial action') include enforcement activities related thereto." 42 U.S.C. § 9601(25).

FN16. The court has entered judgment in favor of Amana on third-party defendants' counterclaims. *United States v. Atlas Minerals and Chemicals, Inc.*, C.A. No. 91-5118 (E.D. Pa. Oct. 21, 1994) (order). Amana's posture in this case will be discussed *infra*.

FN17. *See also United States v. Colorado & Eastern R. Co.*, 50 F.3d 1530 (10th Cir. 1995) (claim by one PRP against another must be classified as a claim for contribution); *Reichhold Chemicals, Inc. v. Tectron, Inc.*, --- F.Supp. ---, No. CIV.A. 92-30393-RV, 1995 WL 314650



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(N.D.Fla. May 17, 1995) (section 113 represents the exclusive remedy for a liable PRP seeking contribution); *Ekotek Site PRP Committee v. Self*, 881 F.Supp. 1516 (D.Utah 1995) (same).

FN18. CERCLA defines "person" as "an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body." 42 U.S.C. § 9601(21).

FN19. The *Browning-Ferris* court heavily relied on its construction of the term "contribution" as it appears in § 113(f). This court agrees that the term should be ascribed its plain meaning, as referring to a claim "by and between jointly and severally liable parties for an appropriate division of the payment one of them has been compelled to make." 33 F.3d at 99 (citations omitted).

This court fails to understand, however, how the *Browning-Ferris* court made the leap from defining "contribution" as a claim by one jointly and severally liable party against another jointly and severally liable party, to its conclusion that the enactment of § 113(f) precludes § 107(a) claims by private "non-innocent" parties.

FN20. In *Transtech*, the plaintiffs sought to recover response costs from defendants that had already settled with the government. Plaintiffs argued that because they had "voluntarily" undertaken cleanup, their claim was one for response costs only. Thus, plaintiffs argued, defendants were limited to the defenses enumerated in § 107(b), and barred from asserting the § 113(f)(2) "settlement protection" defense. The court rejected this argument, pointing out that § 107 is "inexorably linked" with § 113, and that CERCLA should be construed as a whole to effectuate its remedial goals. *Transtech*, 798 F.Supp. at 1087. The court went one step further, however, and converted plaintiffs' claim into one for contribution only, stating that without § 113(f), "it is unclear whether they would have a CERCLA cause of action at all." *Id.* at 1086. This is clearly wrong. The United States Supreme Court has recognized explicitly the continued viability of an implied right of action under § 107. *Key Tronic Corp. v. United States*, 511 U.S. 809, 114 S. Ct. 1960, 1966, 128 L. Ed. 2d 797, 806 (1994). ("§ 107 unquestionably provides a cause of action for

private parties to seek recovery of cleanup costs ....") Thus, while this court finds some language in *Transtech* to be helpful, it disagrees with the holding.

FN21. *United Technologies Corp. v. Browning-Ferris Indus.*, No. CIV.A. 92-0206B, 1993 WL 660007 (D.Me. May 27, 1993), *aff'd*, 33 F.3d 96 (1st Cir. 1994), *cert. denied*, 513 U.S. 1183, 115 S. Ct. 1176, 130 L. Ed. 2d 1128 (1995).

FN22. After the First Circuit Court of Appeals filed its opinion in *Browning-Ferris*, the SCA court revisited its previous ruling on a motion for reconsideration. In denying the motion, the court distinguished *Browning-Ferris* on its facts, noting that the plaintiffs in that case had admitted their liability, whereas SCA had not. The court did not engage in any meaningful analysis of the merits of *Browning-Ferris*. *United States v. SCA Services of Indiana, Inc.*, 865 F.Supp. 533, 545-46 (N.D.Ind. 1994).

FN23. Other courts, including this one, have allowed liable parties to proceed under § 107(a). See, e.g., *Velsicol Chemical Corp. v. Enenco, Inc.*, 9 F.3d 524, 529 (6th Cir. 1993) (applying § 113(g)(2) statute of limitations retroactively to PRP's cost recovery action would frustrate CERCLA's policy goals); *Bethlehem Iron Works, Inc. v. Lewis Industries, Inc.*, No. CIV.A. 94-0752, 1995 WL 376475 (E.D.Pa. June 20, 1995) (statute does not suggest limitation of § 107(a) right of action to "innocent" plaintiffs); *Town of Wallkill v. Tesa Tape Inc.*, ---F.Supp. ---, No. CIV.A. 94-7133, 1995 WL 412988 (S.D.N.Y. July 10, 1995) (governmental as well as private PRPs entitled to maintain both § 107 and § 113 claims); *Companies for Fair Allocation v. Axil Corp.*, 853 F.Supp. 575 (D.Conn. 1994) (same); *FMC Corp. v. United States Dept. of Commerce*, 786 F.Supp. 471, 486-87 (E.D.Pa. 1992), *aff'd en banc*, 29 F.3d 833 (3d Cir. 1994) (defendants jointly and severally liable for non-innocent plaintiff's past and future response costs); *Chemical Waste Management, Inc. v. Armstrong World Indus.*, 669 F.Supp. 1285 (E.D.Pa. 1987) (Cahn, J.) (enactment of § 113(f) buttresses claim that a PRP may maintain a § 107(a) action for response costs against another PRP).

FN24. The Supreme Court appears to have accepted the existence of parallel claims:

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The 1986 SARA amendments included a provision - CERCLA § 113(f) -- that expressly created a cause of action for contribution. See 42 U.S.C. § 9613(f). Other SARA provisions, moreover, appeared to endorse the judicial decisions recognizing a cause of action under § 107 by presupposing that such an action existed. An amendment to § 107 itself, for example, refers to "amounts recoverable in an action under this section." 42 U.S.C. § 9607(a)(4)(D). The new contribution section also contains a reference to a "civil action ... under section 107(a)." 42 U.S.C. § 9613(f)(1). Thus, the statute now expressly authorizes a cause of action for contribution in § 113 and impliedly authorizes a similar and somewhat overlapping remedy in § 107.

*Key Tronic*, 128 L. Ed. 2d at 805.

FN25. In this case, the determination whether Third-Party Plaintiffs may proceed under CERCLA § 107(a) is relevant only to the burden of proof to be borne by each party.

No party has claimed that the third-party action was untimely. See 42 U.S.C. § 9613(g). Additionally, no party has raised the "settlement protection" defense available under § 113(f)(2), which provides that a settling party "shall not be liable for claims for contribution regarding matters addressed in the settlement." 42 U.S.C. § 9613(f)(2). These are the two issues that have made the availability of § 107(a) to non-innocent parties a hotly contested point.

FN26. The release at issue in *Ensco* was an accidental spill of PCB dielectric fluid on a highway after a flatbed carrying electrical transformers flipped over. The district court allocated the entire cost of cleanup to the transporter upon finding that the accident was entirely the driver's fault. *Environmental Transportation Systems, Inc. v. Ensco, Inc.*, 763 F.Supp. 384, 390 (C.D.Ill. 1991), *aff'd*, 969 F.2d 503 (7th Cir. 1992). The district court considered only the relative fault of the parties. The Court of Appeals found the district court's exclusive focus on fault to be a proper exercise of discretion, noting that "a court may consider several factors, a few factors, or only one determining factor, as the district court did in this case, depending on the totality of the circumstances presented to the court." *Ensco*, 969 F.2d at 509.

FN27. Section 2(d) of the UCFA provides:  
Upon motion made not later than [one year] after

judgment is entered, the court shall determine whether all or part of a party's equitable share of the obligation is uncollectible from that party, and shall reallocate any uncollectible amount among the other parties, including a claimant at fault, according to their respective percentages of fault. The party whose liability is reallocated is nonetheless subject to contribution and to any continuing liability to the claimant on the judgment.

Uniform Comparative Fault Act § 2(d), 12 U.L.A. 51 (Supp. 1995).

FN28. Section 107(a)(4) provides in pertinent part that:

any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, shall be liable ...

42 U.S.C. § 9607(a)(4).

FN29. SCA argues that after the Lehigh County site closed, the 1976 contract was orally modified to require nighttime pickup throughout the city rather than only in the Center City area. The distinction is unimportant; however, for purposes of this discussion, the court will assume that the contract required nighttime collection.

FN30. The law of the case dictates that federal common law will be applied to issues of successor liability. *United States v. Atlas Minerals and Chemicals, Inc.*, 824 F.Supp. 46, 49 n.5 (E.D.Pa. 1993) (Garnet Electroplating). See *United States v. Mexico Feed and Seed Co.*, 980 F.2d 478, 487 n.9 (8th Cir. 1992); *United States v. Distler*, 741 F.Supp. 637, 640 (W.D.Ky. 1990). But see *City Management Corp. v. U.S. Chemical Co., Inc.*, 43 F.3d 244, 250 (6th Cir. 1994) (citing *Anspec Co. v. Johnson Controls, Inc.*, 922 F.2d 1240, 1248 (6th Cir. 1991)); *Smithkline Beecham Corp. v. Rohm and Haas Co.*, No. CIV.A. 92-5394, 1995 WL 117671, \*4-\*5 (E.D.Pa. Mar. 17, 1995).

FN31. The parties also briefed the "product line" exception, which some courts have applied in products liability cases. See, e.g., *Dawejko v. Jorgensen Steel Co.*, 434 A.2d 106 (Pa. Super. 1981); *Ramirez v. Amsted Indus., Inc.*, 431 A.2d 811 (N.J. 1981); *Ray v. Alad Corp.*, 560 P.2d 3

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(Cal. 1981). In *Ramirez*, the court defined this exception as follows:

[W]here one corporation acquires all or substantially all the manufacturing assets of another corporation, even if exclusively for cash, and undertakes essentially the same manufacturing operation as the selling corporation, the purchasing corporation is strictly liable for injuries caused by defects in units of the same product line, even if previously manufactured and distributed by the selling corporation or its predecessor.

431 A.2d at 825.

Third-party plaintiffs have been reluctant to argue that the product line exception has any relevance to a CERCLA action. The court agrees that application of the product line exception is unwarranted in this instance.

The product line exception is designed to advance the well-settled premise of strict products liability that "the cost of an injury ... may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business." *Ray*, 560 P.2d at 8 (citations omitted). Courts applying the product line exception have reasoned that a corporation that acquires the benefits of its predecessor's good will also acquires the built-in resources to meet its various responsibilities, and should assume the concomitant responsibility of redressing any harm caused by a product that it continues to manufacture. These courts have taken the view that the inherent unfairness of forcing an injured consumer to bear the cost of injury justifies an exceptional extension of traditional successor liability rules. These unique concerns simply are not present in this setting.

FN32. *Tracey* applied Pennsylvania law. 745 F.Supp. at 1103. However, the reasoning applies to this case, as the requirement that "[a]t the very least, there must be some sort of continuation of the stockholders' ownership interests," clearly represents the holding of a majority of jurisdictions. *Bud Antle, Inc. v. Eastern Foods, Inc.*, 758 F.2d 1451, 1458 (11th Cir. 1985). *Accord Schwartz v. Pillsbury, Inc.*, 969 F.2d 840, 846 (9th Cir. 1992) (applying California law); *Mitchell Machinery, Inc. v. Ford New Holland, Inc.*, 918 F.2d 1366, 1370 (8th Cir. 1990) (applying South Dakota Law); *Louisiana-Pacific Corp. v. Asarco, Inc.*, 909 F.2d 1260, 1265 (9th Cir. 1990) (applying federal common law in CERCLA context); *Arnold Graphics*

*Indus. v. Independent Agent Center, Inc.*, 775 F.2d 38, 42 (2d Cir. 1985) (applying New York law); *General Electric Capital Corp. v. Datronic Aero, Inc.*, No. CIV.A. 92-3828, 1995 WL 296957, \*6 (N.D.Ill. May 12, 1995) (applying Illinois law); *Nova Ribbon Products, Inc. v. Lincoln Ribbon, Inc.*, No. CIV.A. 89-4340, 1995 WL 154749, \*6 (E.D.Pa. March 30, 1995).

FN33. In *Atlantic Richfield Co. v. Blosenski*, 847 F.Supp. 1261 (E.D.Pa. 1994), Judge Giles correctly pointed out that this court's citation to *Polius v. Clark Equipment Co.*, 802 F.2d 75 (3d Cir. 1986) was misplaced. 847 F.Supp. at 1283; see *Atlas Minerals*, 824 F.Supp. at 51. In *Polius*, the Court of Appeals for the Third Circuit rejected the substantial continuity test in the context of products liability because it "brush[es] aside" the fundamental tort requirement that the defendant's conduct must have a causal link to the plaintiff's injury. 802 F.2d at 81. Judge Giles is quite correct that CERCLA is uniquely unconcerned with the concept of causation. However, this court stands by its ruling that the substantial continuity theory "should be applied only when the application of traditional corporate law principles would frustrate the remedial goals of CERCLA, namely to have *responsible* parties contribute to the cleanup costs." *Atlas Minerals*, 824 F.Supp. at 50 (emphasis in original).

FN34. Third-party defendants assert that the hydrocarbon waste would have been contaminated with lead from the atmosphere as well as debris (such as sticks and leaves) while stored in an open pit. This argument is unconvincing.

FN35. For example, third-party plaintiffs describe their suggested model as a "plain vanilla application of relatively straightforward theory" that is "principled, fair, and economically efficient." (TPP Post-trial, Pre-argument Brief at 51, 67.) Third-party defendants, however, characterize third-party plaintiffs' approach as "nonsense," "a sham," and "at worst inconsistent and biased, and at best irrelevant." (Saucony's Post-trial, Pre-argument Brief at 45.) In contrast, third-party defendants describe their own allocation scheme as "objective, fair, equitable, reproducible and based on generally accepted, proven theories." (Saucony's Post-trial, Pre-argument Brief at 28.) However, third-party plaintiffs describe third-party defendants' approach as "unprincipled, unsupported, and inequitable," as

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well as "an intellectual orphan unsupported by competent testimony." (TPP Post-trial, Pre-argument Brief at 44, 64.)

FN36. Third-party defendants argue that the court should draw a bright line between "hazardous" and "nonhazardous" waste for allocation purposes. Waste is considered hazardous, in third-party defendants' view, if it meets the RCRA definition of hazardous waste, 42 U.S.C. § 6903(27), or if it closely resembles RCRA hazardous waste. The court will address the proper characterization of waste *infra*.

FN37. Third-party defendants have cited a variety of cases that allude to the presumption that public officials will perform their duties. *See, e.g., Nason v. Commonwealth*, 494 A.2d 499, 502 (Pa. 1985); *Local Board of Health of Bordentown Township v. Interstate Waste Removal Co.*, 465 A.2d 587 (N.J. Super. Ct. Law Div. 1983); *Shupe v. Antelope County*, 59 N.W.2d 710, 715 (Neb. 1953). Although these cases arose in a wide variety of contexts, the court generally agrees that it may be presumed that DER would have done its job.

FN38. The court pauses to muse idly as to whether DER would have ordered Oswald to cease landfilling activities and subsequently ordered the Site's closure prior to 1988 had there been no industrial hazardous waste. Third-party defendants premise their argument partially on the fact that DER had been monitoring the Site throughout the 1970s and had ordered the Site to stop accepting waste. However, they failed to mention whether DER would have been involved at all if only MSW had been present at the Site and whether the Site would have been closed under the 1977 regulations. Perhaps DER would have permitted Oswald to continue to operate the landfill until 1988, then required its closure with a multi-layer cap. Such questions invariably arise when one hypothesizes.

FN39. In a letter to EPA prior to the response action, DER noted:

High concentrations of lead, and other heavy metals, in the surface water, surface sediment and surface soil have presented a continuing public health threat to people who come in direct contact with the surface of the landfill. Unfortunately, conditions at the site have been deteriorating rather rapidly due to soil erosion caused by runoff from the site.

(TPD 908 at 7.) In her funding request for the removal action, the OSC stated that erosion from runoff had exposed buried waste materials and had further resulted in migration of surface water and sediment. Additionally, leachate from seeps was migrating offsite onto adjoining farmland. (TPD 980 at 1.)

FN41. Third-party plaintiffs assigned a "waste strength" score to each waste stream. The waste strength scores reflect an appraisal of toxicity, mobility, and physical state. The waste strength scores were developed by Dr. Michael Lowe ("Lowe"), a toxicologist, and Gary Brown ("Brown"), an engineer, at a meeting held in King of Prussia, Pennsylvania. This meeting was referred to during trial as the King of Prussia conclave ("KPC"). In keeping with tradition, and for the sake of clarity, the court will refer to the resulting waste strength scoring system with reference to the KPC.

FN42. Third-party plaintiffs have revised their estimated cost figures several times. Therefore, the weighting factor of 0.713 is not a static figure.

FN43. The court also notes that prospective enforcement schemes render Bernheim's economic incentives superfluous. Under RCRA Subtitle C, 42 U.S.C. §§ 6921-6939e, for example, disposal of hazardous waste at any facility that is not permitted to accept it is forbidden. 42 U.S.C. § 6928(d). Additionally, under Pennsylvania's Solid Waste Management Act, 35 P.S. § 6018.101 *et seq.*, no waste may be disposed at a facility that does not have a permit. Co-disposal sites such as the Dorney Road Landfill no longer exist; however, small amounts of hazardous waste may be disposed at municipal waste facilities under very limited circumstances, and only with DER's approval. 25 Pa. Code § 261.5(g)(iii).

FN44. Bernheim assumes the absence of a choice of remedies. However, the Pennsylvania multi-layer cap was one of five remedial options set out in the RI/FS report for OU-1.

FN45. Some practitioners' journals recently have offered some commentary on cost allocation. *See, e.g., Singh & Hinerman, Superfund Cost Allocation: Equitable Techniques and Principles*, 9 Toxics L. Rep. 531 (Oct. 12, 1994); Hall, *et al., Superfund Cost Allocations: The Law, the Science*

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*and the Practice*, 49 Bus. Lawyer 1490 (Aug. 1994); Butler, *et al.*, *Allocating Superfund Costs: Cleaning Up the Controversy*, 23 Env'tl. L. Rep. 10133 (1993). Although the court finds these articles somewhat instructive, they do not assist the court significantly in this case. Cost allocation is a fact-intensive problem for which no simple solution can be culled from legal academia.

FN46. The court is aware that each waste stream contributed volume as well as hazardous substances. To the extent that the high waste strength waste streams' volume affected costs, this is accounted for because the share reached on each side is a weighted volumetric share.

For the most part, the most hazardous waste streams were disposed of at the Site in relatively small quantities, and the MSW or MSW-like waste streams contributed the greatest volume. Therefore, the formula works nicely for this case because the proportions allow the court to isolate the "hazardous" and the "non-hazardous" waste streams without producing unfair results. However, the court admonishes that this formula may produce an inequitable allocation under different facts.

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